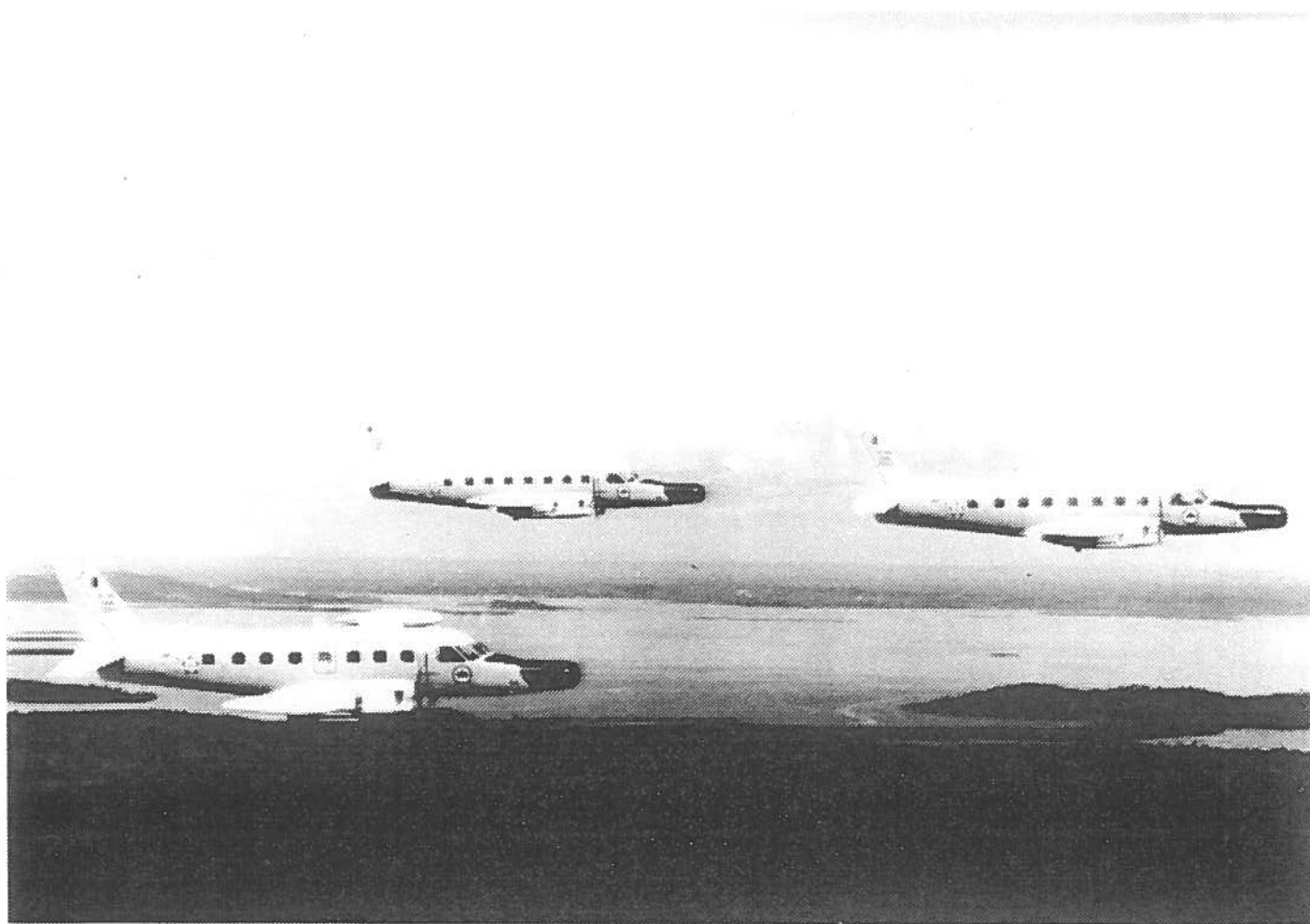


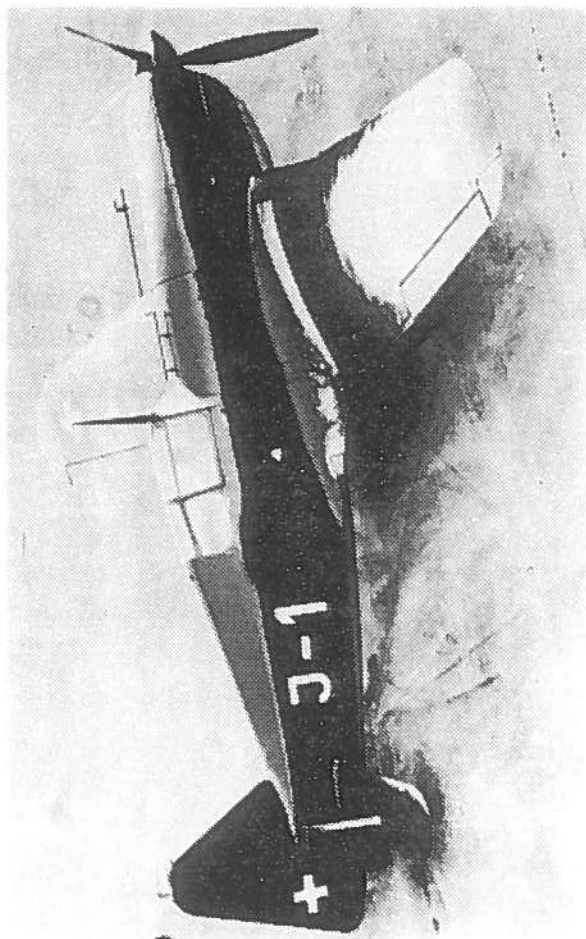
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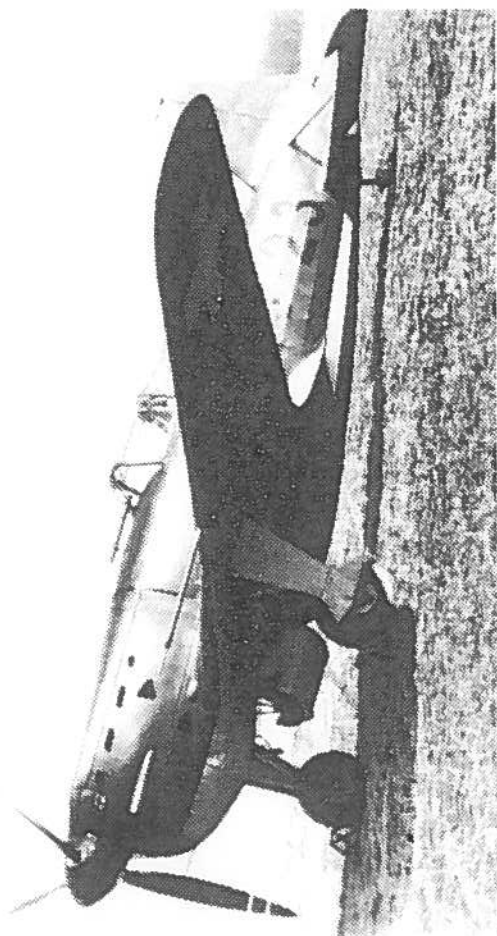


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July 1984

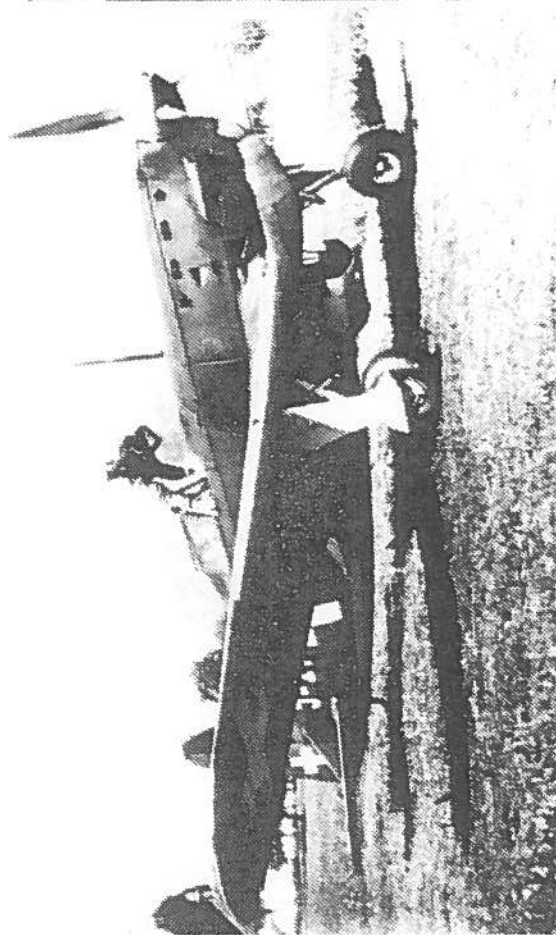
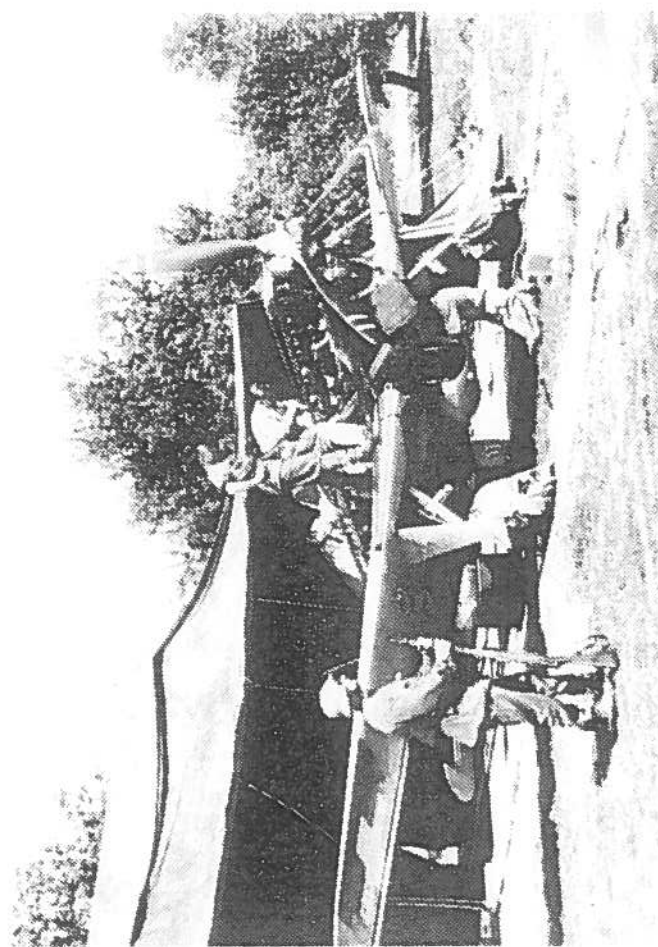


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small air forces observer

the newsletter of the Small Air Forces Clearing House

As the difficulties of obtaining US currency spread to other countries, more and more subscriptions to the SAFO are being obtained by means of barter. This means that more items are available from the SAFCH Sales Service, but it also means that your support is even more important than in the past.

A limited number (one, unless otherwise indicated) of the following are available from the editorial office. All prices are US \$ and include surface postage.

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COVER COMMENTS: A trio of EMB-111 Bandeirante of the 1st Squadron, 7th Aviation Group, Brazilian Air Force. The story of the Bandeirante's predecessor, the Lockheed P-2, begins on page 108. (Enbraer)

PHOTO PAGE: The story of the Swiss Moranes begins on page 95.

(a) The MS-406H, J-1, in 1941. (via Wegmann)

(b) A D-3800, J-23, with telescopic gun sight but without radio, circa December 1939. (via Bopp)

(c) & (d) D-3800s on the war-emergency airfield at Kestenholzer in June 1940. These photos were published by the Swiss Defense Department to show the world that Switzerland was ready to defend its independence. (via Bopp)

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(Continued on page 105)

An Alpine Morane

New Year's Day 1944 was bitterly cold and the Jura mountains were covered with snow. The pilots of the alert flight on the airfield of Payerne were sitting comfortably in their heated barrack. Unlike their colleagues at Dubendorf, they had volunteered to serve all through the month of January. Probably they considered the chance of a mission as very low. They were wrong.

At about midday, a German aircraft crossed the Swiss border in the area of Les Verrieres heading for St. Aubin. When, a little later, it was seen over the town of Neuchatel flying at a medium altitude, five heavily muffled pilots were already shivering inside the ice-cold cockpits of their Moranes. Normally, the major problem of these interceptions was to find the intruder and then to catch up with him. Not so this time. The German flew past Payerne airfield in visual range. The commanding officer Oblt. Dattwyler and Lieutenants Bach, Bar, Eha, and Meierhofer took off and went after the intruder. (Aircraft numbers were J-160, 163, 164, 189, and 200.) They must have been somewhat surprised when they discovered the stranger with the swastika to be a floatplane of an unknown type. If they were to force the strange bird to land, they would first have to think of a convenient lake. But that was not to be. Two of the bulbous little fighters closed up on the invader and started to shake their wings. The two German aviators tried to challenge their luck. While one of them sought to shake off the unwelcome Confederation pilots with machinegun fire, the other turned the aircraft around and tried to run for the French border. For a moment it looked as if the trick had worked, but then two more fighters came hurtling down. Their fire struck with deadly precision. Instantly one of the bomber's engines started to trail smoke and the aircraft rolled onto its back and fell steeply to earth.

The aircraft crashed in a snow-clad wood between Boecourt and Moutier. Fire had destroyed much of the Fiat RS 14. Feldwebel Donken and Wachtmeister Pauke were beyond help for the two had paid with their lives for their accidental or deliberate attempt to cross a neutral airspace in an armed aircraft. Not only had they intruded, but one of them had shot at aircraft of a country with which Germany was not at war.

This was the first violation of Swiss airspace in that year and in January alone there were 65 more to come. Swiss retaliation only rarely ever proceeded in such a textbook manner, but this story is to indicate the significance of the aircraft type that represented the endangered nation's will for self-determination.

PRELUDE

The Morane made its first acquaintance with Switzerland in 1937 when it was officially evaluated. When the results proved to be entirely positive, two sample airframes were ordered. On 11 September, the first MS 406H (H for Helvetique - Swiss) arrived at Thun. It carries the number 601. This type differed from the French variants in several ways: Swiss machine guns in the wings (these were belt fed instead of having the drum magazine of the French gun which required a blister on the wing; the cockpit armour and roll-over protection were omitted; and cockpit instruments and radio equipment were of Swiss manufacture.

In comparison to the later Morane versions, the MS 406H had a tail skid instead of a tailwheel; they possessed an early type of gun sight; and the pitot tube carried a short additional tube. On 15 April, the second (and last) MS 406H arrived in Switzerland. No photographs depicting this aircraft have been found; presumably it was soon disassembled to be used as a model for the licence production which was to commence soon. Number 601 was re-registered in 1940 and became J-1. At the

same time, it was equipped with a Swiss-made Escher-Wyss propeller and was painted in glossy dark green and blue. The radio mast was repositioned forward to the front edge of the cockpit roof.

WAR

When, on 29 August 1939, complete army mobilization was announced, it immediately became apparent how modest a force the Fliegertruppe was. In the inventory were 121 observation biplanes and 86 fighters, and of these only 53 were actually operational. The 35 Dewoitine D27s and the 6 Me 109Ds were not exactly the latest thing in fighter design and it was questionable whether the 12 available Me 109E would be sufficient to deter the German Air Force. Five of the squadrons (of a total of 21) were disbanded immediately after the mobilisation because they possessed no aircraft at all (Fliegerkompanien 1, 4, 7, 8, and 9). Oberstdivisionskommandant Bandi, commander of the aviation and anti-aircraft forces, had to state in a report to the Army High Command, that only 3 of his squadrons were really combat-ready.

The situation was grave, but fortunately the solution to the crisis was already under way. In June 1938, five companies (plus subcontractors) had begun production of Morane components. These companies were: Konstruktionswerkstätte, Thun; Eidg. Flugzeugwerk, Emmen; SWS, Schlieren; Doflug, Altenrhein; and Saurer, Arbon. Astonishingly, the Morane programme was considerably slowed down when the majority of the workers had to join the forces after mobilisation. In spite of this, the first Swiss-manufactured Morane was rolled out of the Thun plant in November 1939. The designation of the type was D-3800. Eight of the preproduction batch were assembled at Thun. The series production run was to follow at Altenrhein.

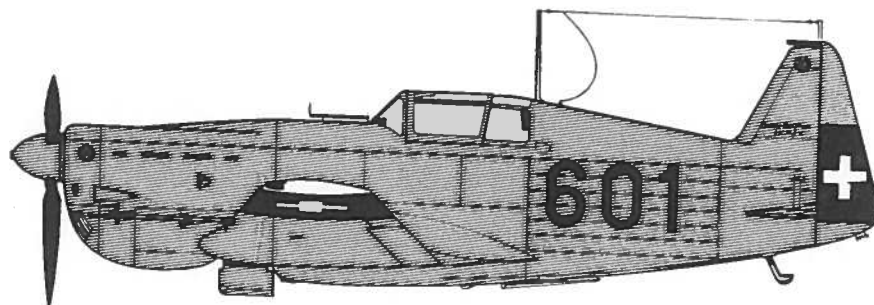
The speedy output of fighter allowed the first conversion training course to be held in the beginning of 1940. Fliegerkompanien 3, 4, and 5 were the first to convert, followed by 13, 14, and 20 in April 1940. A little later, No. 19 became the last squadron to trade their obsolete Dewoitine D27s for the new type.

The situation was obviously greatly improved, and when the German western offensive began on 10 May 1940, the Fliegertruppe looked much better indeed. The 80th and last D-3800 was handed over on 29 August 1940. (Two more, J-83 and J-84, were later assembled from surplus parts.)

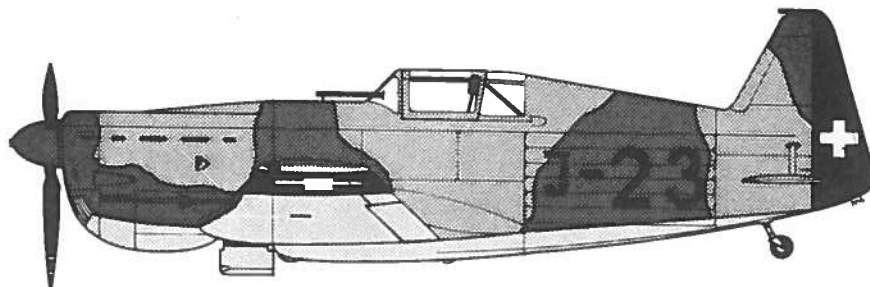
This rapid build-up caused new problems and there was a series of spectacular accidents. The first occurred on 7 March 1940 when a Morane made an emergency landing at Thun airfield. The pilot lost control and the aircraft overran an artillery unit undergoing training; five recruits were killed. Just two weeks later, Major Jean Kohli (Commanding Officer of Flieger Abteilung 2) crashed during a reconnaissance flight and lost his life. On 14 August, a Fokker CV and a Morane collided during dogfight training. The pilot of the Morane, Lt. M. Gabriel, did not survive. The following Spring, on 23 April, two Moranes collided. Hauptmann Niedermann, Commanding Officer of Fliegerkompanie 20, tried to nurse his crippled bird home but failed. This account is not complete and could be continued. During the war a total of 18 people were killed in Morane crashes and not one of these victims can be attributed to hostilities. The main reason for this series of fatalities was the very intensive training program that demanded a lot of hours to be flown in a short period, often in weather conditions that were not ideal. The will for independence has taken its toll, even in this country.

Looking at pictures of D-3800s reveals several variations. The aircraft that were used for conversion training at Payerne in early 1940 possessed either a telescope

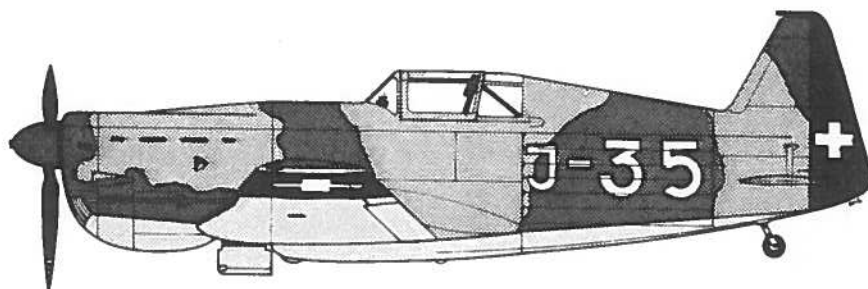
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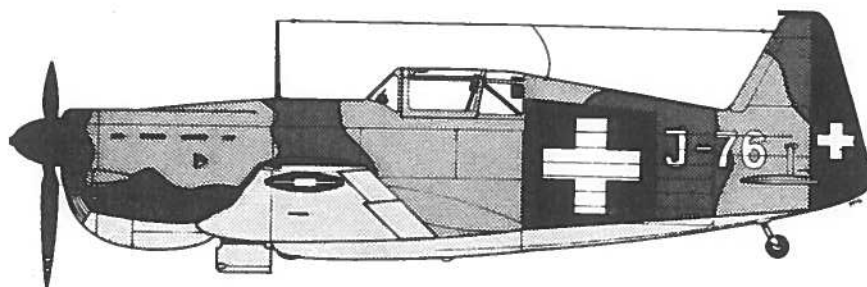
B



C



D



Metal



**RLM
70**



**RLM
71**



**RLM
78**



Red



Yellow

**1/72 Scale
Peter Gunti, IPMS-CH
1983**

gunsight or a more sophisticated reflex sight. None had radio equipment and there was thus no aerial mast. A metal sun shield was fixed to the roof of some aircraft. Most D-3800s were painted in a two-tone camouflage scheme. From examination of original color chips it can be concluded that these colors were identical to the German colors RLM 70 and 71 with 78 for the undersides. RLM 63 was used for the cockpit sides and wheel bays. One has to examine the photos closely to discover the pattern of the camouflage as the films of the period have reproduced the two colors in almost identical grey tones. The pattern was sprayed and the edges varied in sharpness. When the D-3800s were equipped with radio in May-June 1940, an aerial mast was fitted in front of the cockpit offset to the right. In about the middle of 1941, the aerial masts were lengthened. In 1944, all D-3800s were modified to 3801 standards.

A Morane with a Swiss Accent

It must be made clear that the Morane was definitely not a perfect aircraft. It certainly had its good points, but it also had some weaknesses and some serious shortcomings. The remarks of the French colonel, Pierre Boillot, about the MS 406 which he flew in the Battle of France against the numerically superior Luftwaffe, concluded with the following: "Had the MS 406 been given 20% more horsepower, belt-fed guns with the necessary heating system to ensure that they did not freeze solid at low temperatures, a good gunsight, and a reliable propeller, then it could have been as worthy a fighter as the Hurricane was to the RAF."

The Swiss, obviously, found the same deficiencies in the Morane and all the weak points mentioned by Colonel Boillot were rectified in Switzerland. The problems related to the propeller, guns, and gun sight were solved right at the beginning of the aircraft's service life, but to increase the power of the engine required much more time. However, by the end of 1940, work had begun on the first examples equipped with the new Hispano-Suiza HS-51 15Y engine of 1060 hp, an increase of 18%. The new motor was also licence manufactured by the Saurer company. The new aircraft received the designation D-3801 and could be distinguished by a fixed radiator and different exhaust pipe. A total of 207 examples were delivered (including 17 which were assembled from surplus spares in 1947/48).

To say that the new motor had its teething troubles is an understatement. Soon after delivery some very serious problems with the crankshaft bearings arose leading to several accidents. During 1942 production dropped to just 16 machines and in 1943 only one aircraft was delivered to the Air Force. The serviceability of Air Force machines were very low during this period (the C 36 ground attack aircraft has the same motor - and the same problems). By the spring of 1944, however, the difficulties had been overcome and production proceeded without further delay. It should be remembered that by this time contemporary foreign aircraft were leaving the production lines with 2000 or more horsepower.

Compared with the D-3800, the D-3801 showed more standardization of equipment and there were only minor differences between individual aircraft. Two styles of windscreen were used; one of normal glass and equipped with a wiper, the other of armoured glass. Different types of wing racks were carried during the service life of the aircraft.

Although a considerably superior combat aircraft to the French MS 406 there was one aspect in which the Swiss variant was not its equal. During the entire period of the war, the Swiss never managed to solve their radio communications problems. All the other aircraft types on the inventory shared this problem with the Morane. When Divisionar Wyler took over the command of the Fliegertruppe on 1 January 1944, he reported to the army high command:

ILLUSTRATIONS

A. The Morane MS 406H '601' as delivered. Note the two Company logos: the logo just behind the spinner is chromium plated, the logo on the fin is black.

B. D-3800 'J-23' in December 1939.

C. D-3800 'J-35' during the second training school in April 1940.

D. D-3800 'J-76' at Payerne Airfield in the western part of Switzerland, circa 1942.

Peter Gunti (IPMS SWITZERLAND)

(Editor's note: This article was originally published in VIRUS PLASTICUS 1/83. This translation, by Mike Kirk, is reproduced here with the kind permission of IPMS SWITZERLAND.)

"Radio equipment is completely inadequate. In 1943 only 43.5% of the aircraft were fitted with radio sets and these sets had neither a satisfactory performance nor the expected reliability. In this field we are inferior to all the other belligerent nations."

In the winter of 42/43, when incursions of British night bombers became more frequent, the Flugwaffe was asked to take increased action against the nightly intrusions. In the spring of 1943, the officers of the newly formed surveillance wing were given the task of testing the D-3802 in the role of night fighter. Their system was similar to the German "Wilde Sau" method by which the bomber was illuminated by searchlights and the fighters attacked the revealed aircraft. By the end of the summer, the wing had completed over 500 test sorties and the final report of the wing commander stated: "Interception by our fighters at night (and also by day) has only a chance of success if carried out against aircraft with a speed not exceeding 400-500 km/h."

Reference to performance data of World War II aircraft will make evident the point of this comment. Furthermore, the number of navigational aids and searchlights was regarded as insufficient for these missions.

By the end of 1943, the Morane reached its highest deployment. It then equipped Squadrons 3, 4, 5, 12, 13, 18, 19, and 20, together with Kompanien 1 and 2 of the surveillance wing and had become the standard Swiss fighter.

With the increasing availability of more sophisticated aircraft, the D-38s were transferred to the ground attack role. The Moranes that soldiered on as fighters until the end of the war were not without a good chance of success in a dogfight. Colonel Boillot said about his combat experience: "If you managed to find an inexperienced Luftwaffe pilot foolish enough to be lured into a steep turn, you could easily out-turn him and make use of the excellent Hispano-Suiza cannon and, despite the limitations of the Morane, ensure that he did not survive to become experienced."

ACKNOWLEDGEMENTS

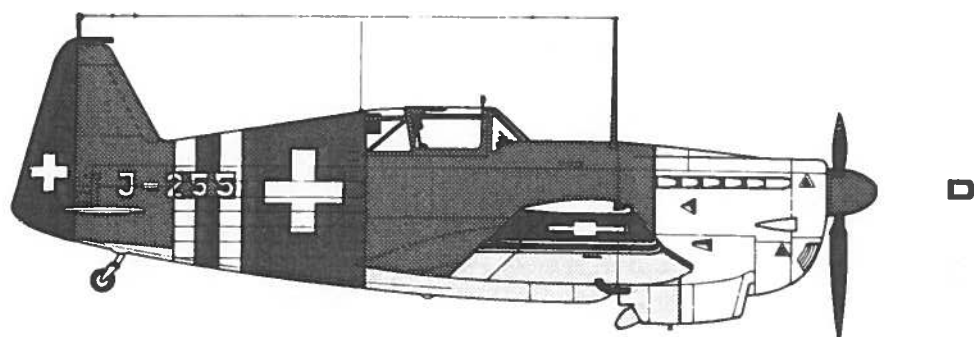
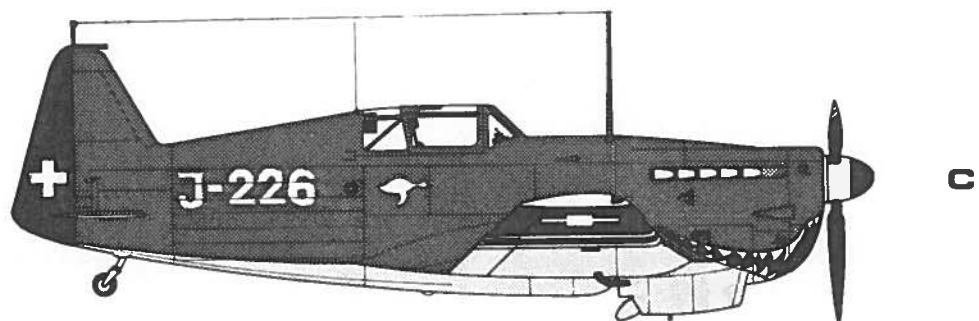
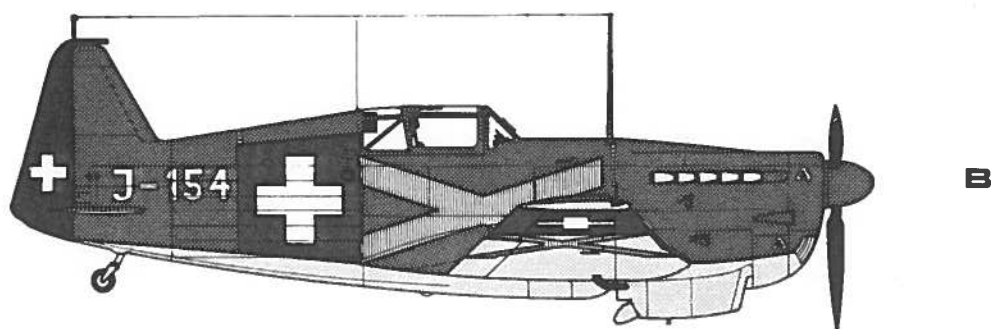
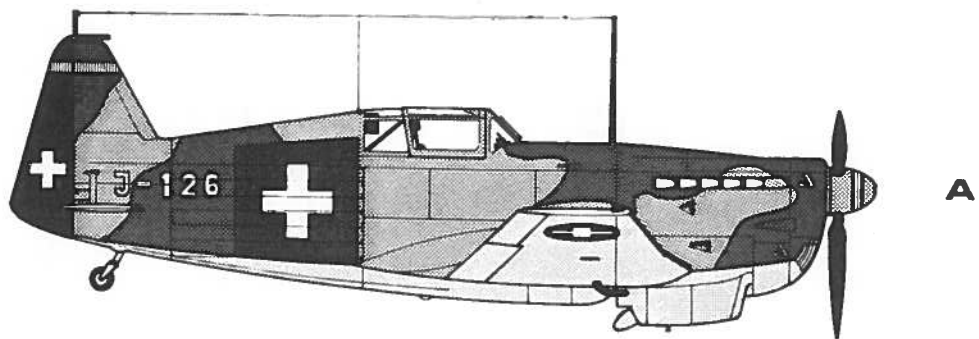
I would like to thank the following for the help that they freely gave: Rolf Blattner, Urs Bopp, Roland Eichenberger, Werner Gysin-Aegeter, Mike Kirk, Albert Violand, and Franz Wegmann.

Peter Gunti (IPMS SWITZERLAND)

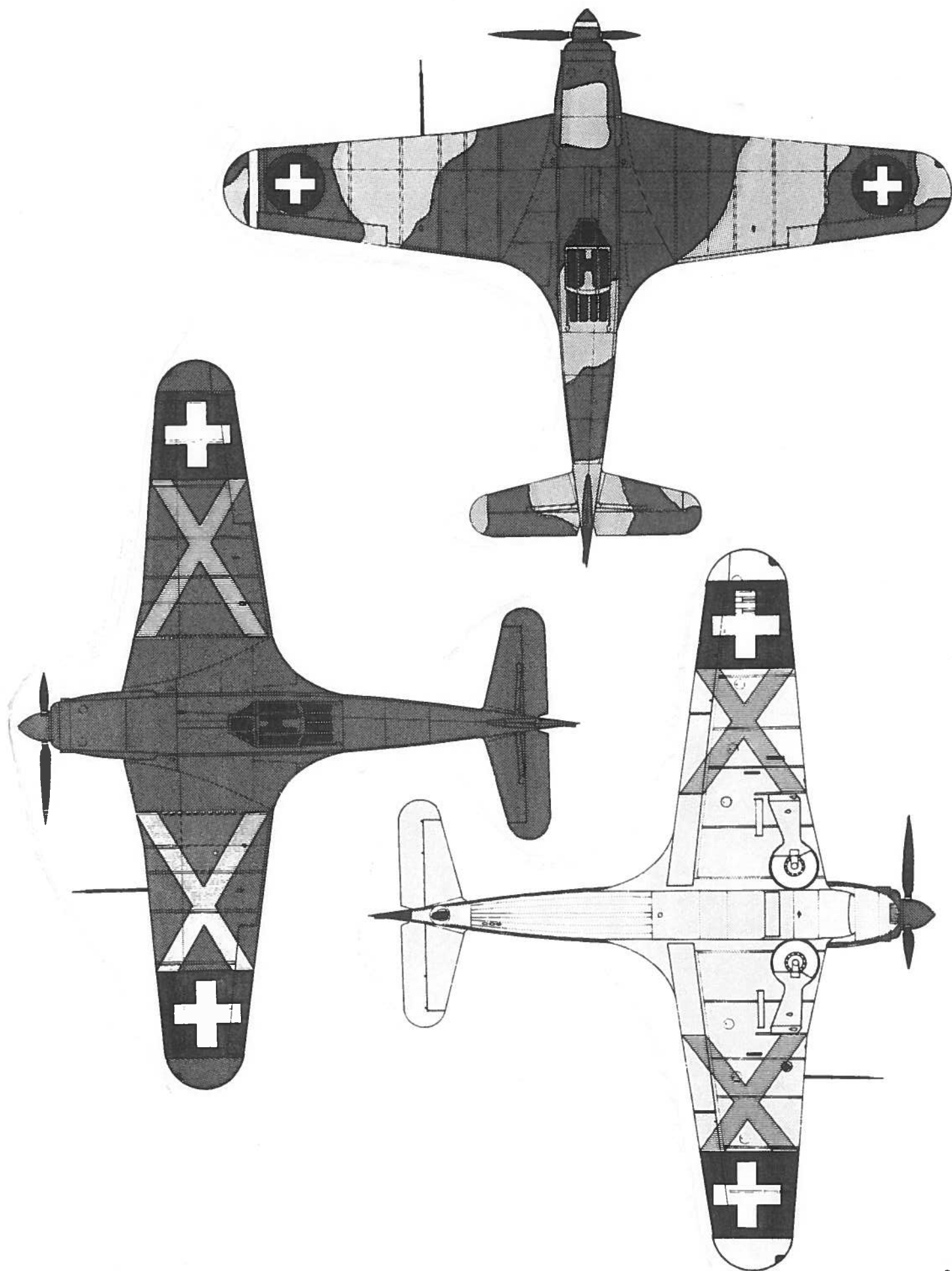
"I must say that joining the SAFCH has been one of the wisest things I've ever done. I've picked up some splendid correspondents and received some valuable help, and in return I think I've been able to supply some useful assistance."

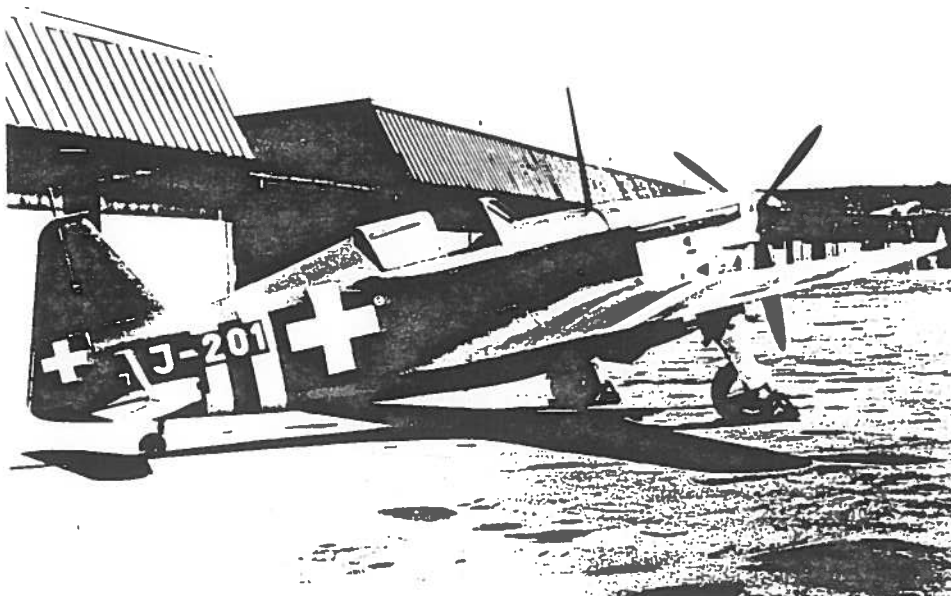
R. D. Layman (SAFCH #619)

(Editor's note: Never before have I published any of the many compliments received by the SAFO, but this one so accurately reflects the spirit of the SAFCH, that I could not resist.)



1/72 Scale
Peter Gunti, IPMS-CH
1983





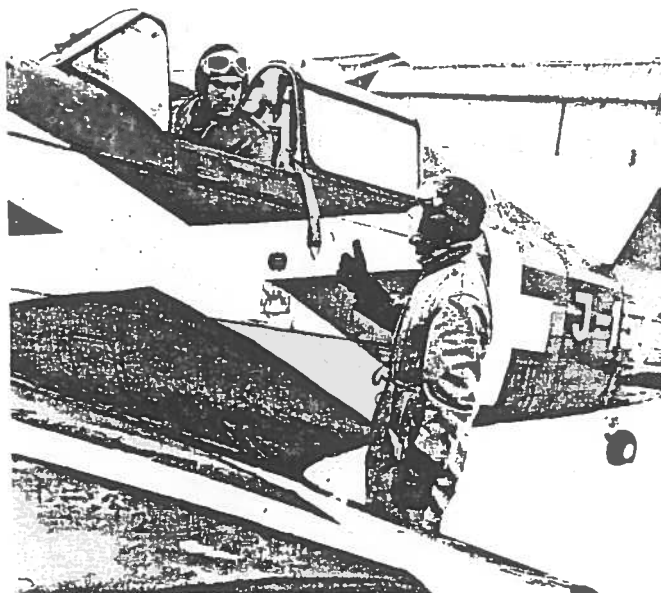
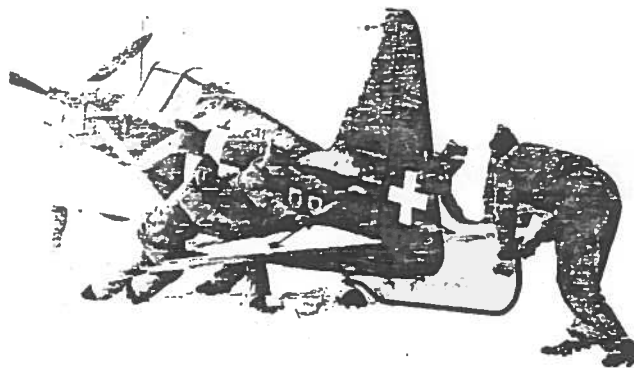
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The 3-view drawings of the Morane D-3801 that accompany this article are, to the author's knowledge, the most accurate that has ever been published. Drawn to 1/48 scale it will enable the modeler to "super detail" his model. With the help of a large number of photographs, the maximum of detail has been incorporated. However, not everything is featured on the drawing. Notably, the two pipes of the ventral air intake, just behind the undercarriage bay, have not been represented because we have noticed that they do not exist on all aircraft (the Morane in the museums at Le Bourget and Dubendorf do have them). The same applies to the round opening (gun camera) in the leading edge of the right wing, halfway between the machine gun and the fuselage, that is found, for example, on J-133. As already mentioned, the ideal solution would be to refer to photos of a specific subject but, as these are not particularly numerous, we will have to make the best of what we have.

There are a few details that are not immediately obvious: The fixed part of the cockpit canopy has an upper, lengthwise frame. The protective metal panel in the top of the sliding part of the canopy is not present in every aircraft. It would seem that this was fitted in aircraft J-200 and onward. Note the three identification

Above: After the invasion of Normandy, the Swiss Moranes were more clearly marked to prevent mistakes. J-201 at Dubendorf, circa 1944. (via Wegmann)

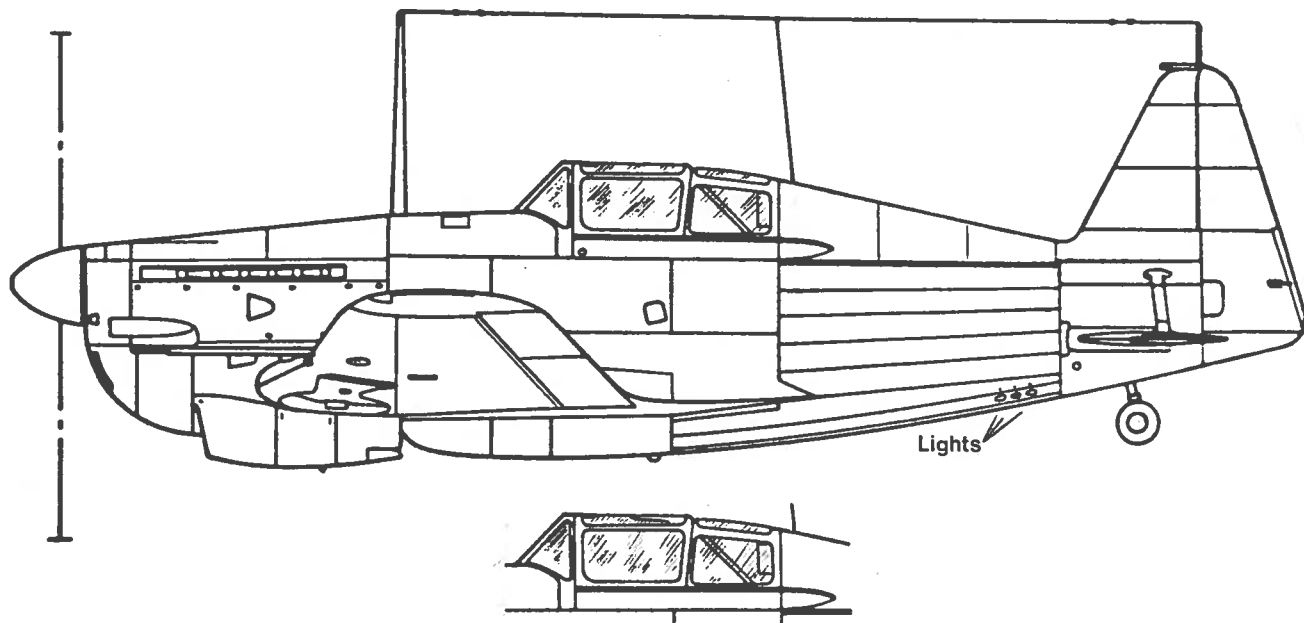
Below: J-154 during the winter of 1943/44. The crosses were applied to first-line interceptors to indicate that they were to be given priority for take-off during a scramble. (via Gysin-Aegeter)



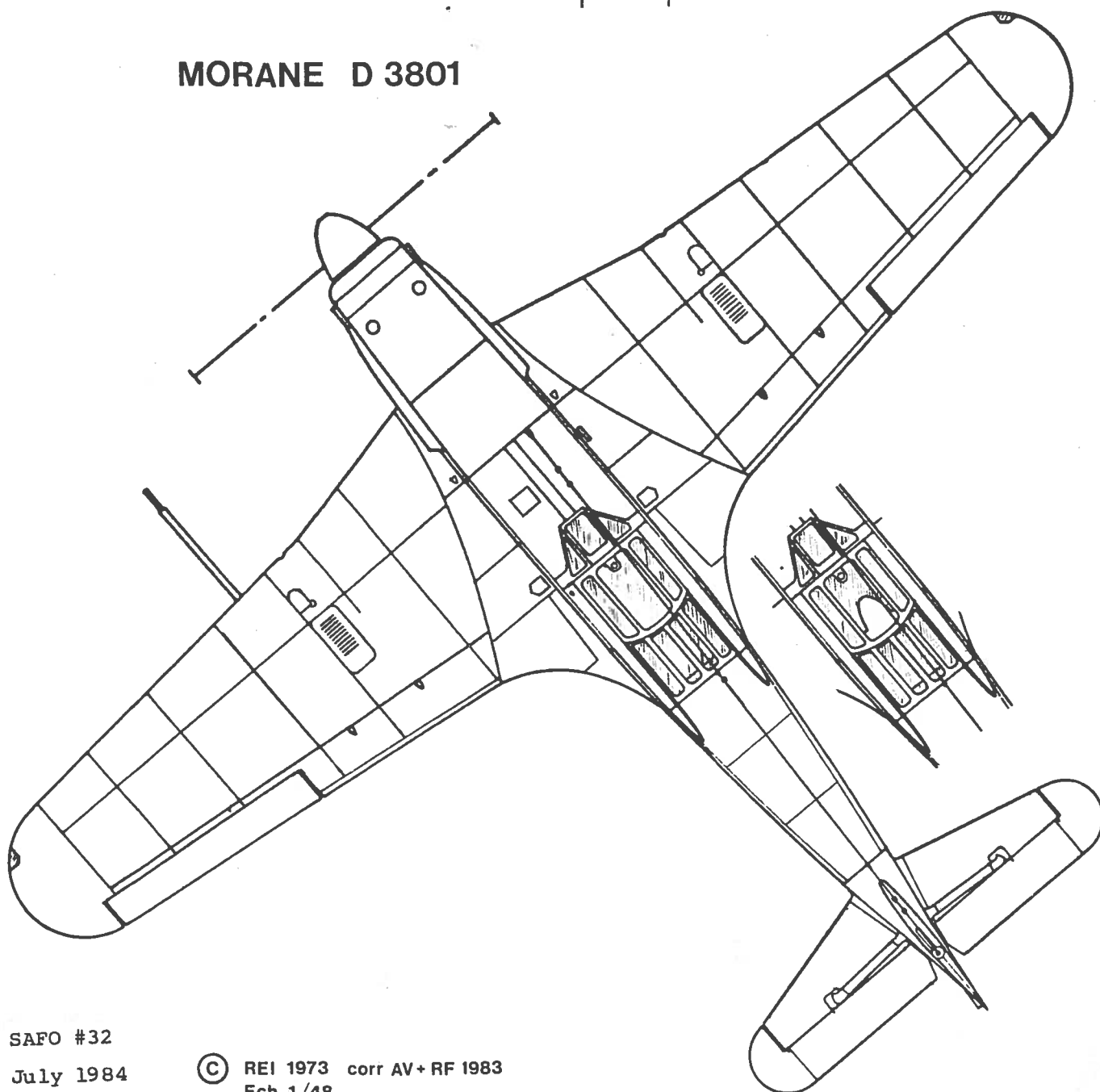
lights on the rear, left side of the fuselage. The hole situated behind them and level with the leading edge of the tail plane passes through the fuselage; it serves to put the aircraft on trestles. The antenna lead-in wire is slightly offset to the right. To finish, it should be pointed out that the bands at the top of the fin and on the spinner of J-190 are not white, as is the number on the fin. They could be yellow, blue, or another colour. Also, on some photos of Moranes (unfortunately of poor quality), it is possible to make out a series of numbers painted on the fin. These numbers were, in fact, the serial numbers of American aircraft escorted by the Moranes to a safe landing in Switzerland. It would be interesting to have further information on these subjects.

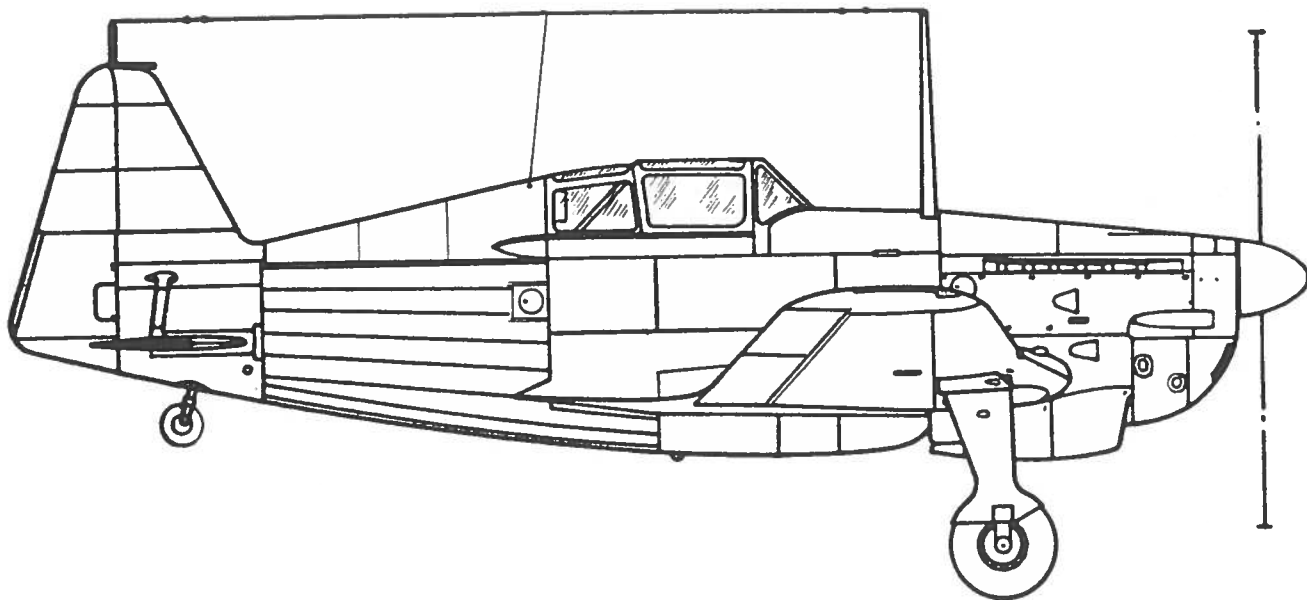
The drawings on these pages are copyright R. Eichenberger 1973 with additional material by R. Forster and A. Violand 1983.

Richard Forster (IPMS SWITZERLAND)

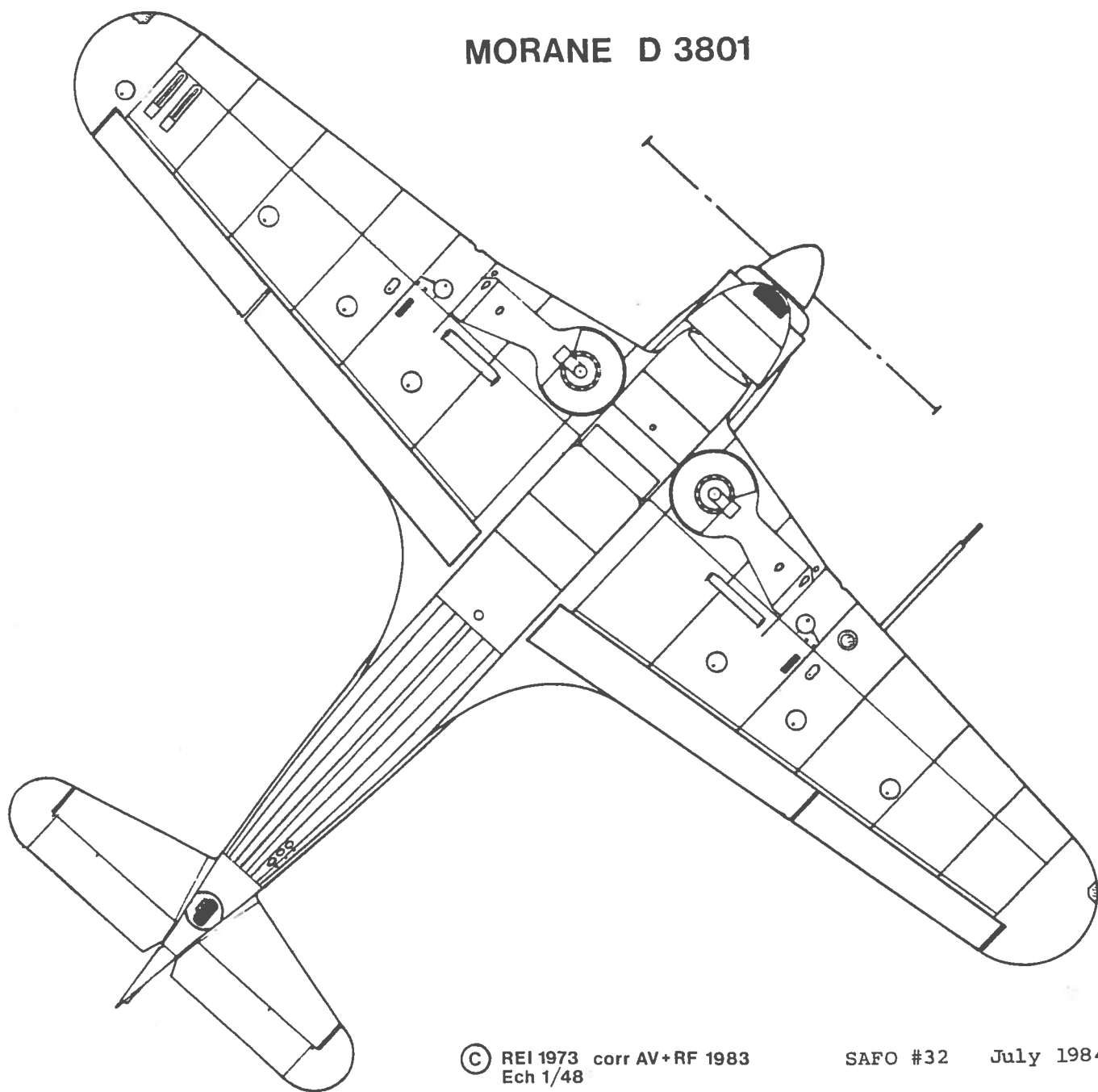


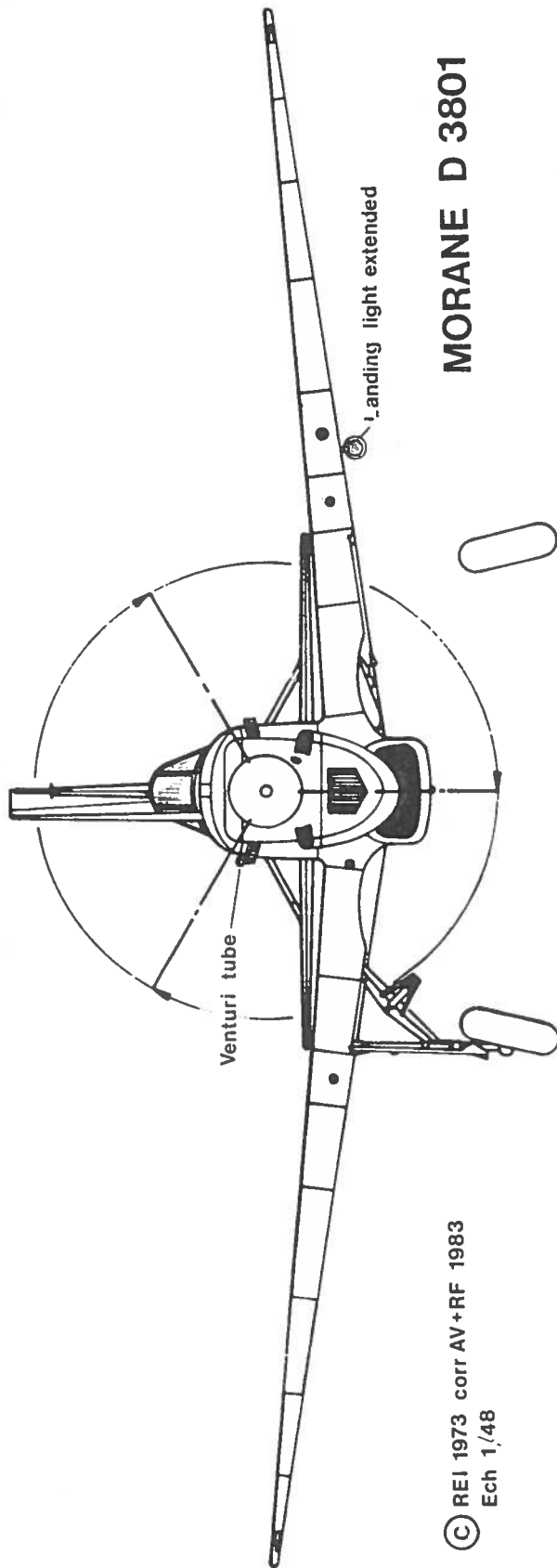
MORANE D 3801



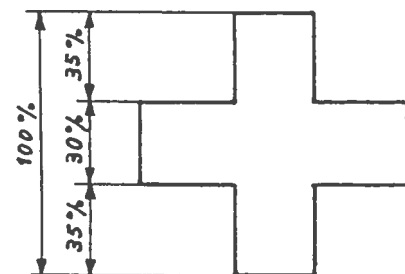
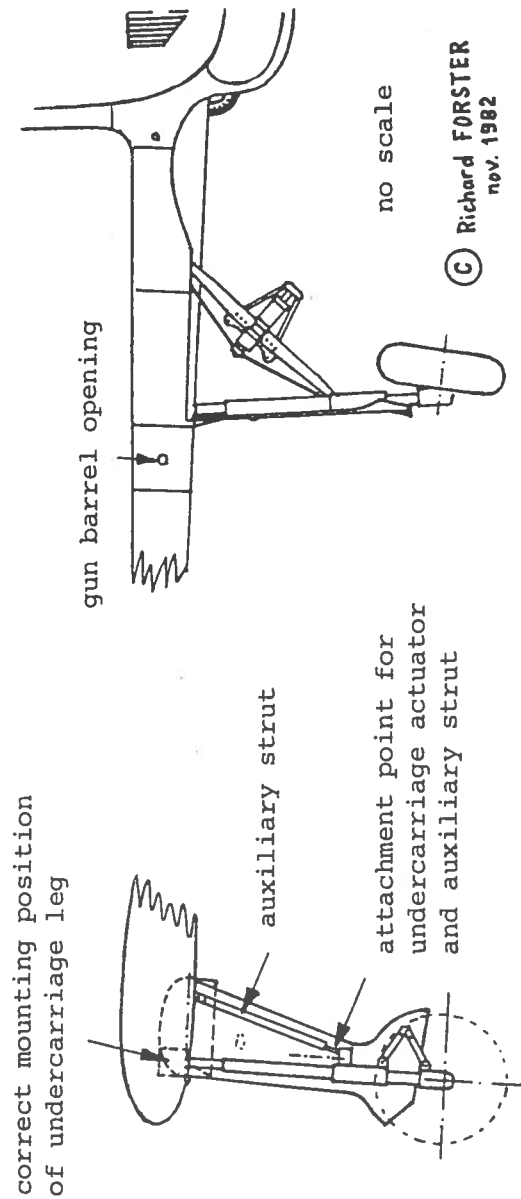


MORANE D 3801





© REI 1973 corr AV + RF 1983
Ech 1/48



PROPORTIONS OF THE
SWISS CROSS

DETAILS OF THE STARBOARD UNDERCARRIAGE

Modeling the Swiss Morane

References to the Swiss version of the Morane are definitely not abundant. There is, however, an article in *Fanatique de l'Aviation* (1) Nos. 107 and 11 which describes J-277, now finally grounded in the Musée de l'Air but still fiercely carrying its sharkmouth even though it is in the colors of the French Air Force! (2). Urech's "encyclopedia" (3) should not be forgotten, nor the articles that appeared in *Cockpit* (4) several years ago, nor *Air Enthusiast* Vol. 4/5. As to color profiles, they are practically always of the same subject, we find J-277 in Fana, Profile 147, and in *Aircam* 13 (Sharkmouth). In *Air Enthusiast* there is another sharkmouth, but on an aircraft (J-292) in a very doubtful two-color camouflage scheme.

As always, in order to make a model as accurate as possible, reference should be made to photographs, and these, it must be recognized, are not thick on the ground. Only a few enthusiasts possess photographs obtained via veterans of the Swiss Air Force or other sources. Happily, there still remains an aircraft in the museum at Dubendorf where it can be admired "in the flesh", and one other at Le Bourget (5).

Those enthusiasts who were at the model competition at Baske on 24 October 1982 certainly noticed the 1/48-scale model of a Swiss Morane which came out top in its class. Some experts were seen scratching their heads: injection molded or vacuform? A difficult question seeing that no kit exists in this scale. And yet, there it was before their eyes. The impossible had been realised thanks to the skill and knowledge of our friend Manuel Schmid together with the help of some members of Geneva chapter of IPMS-CH. In fact, this out-of-the-ordinary model falls somewhere between a vacuform and an injection molding. The material used for its realisation is a two-part polyester resin more commonly called "car body putty". It is a material which is even easier to work than polystyrene, with which its solidarity is comparable, although the small components are rather fragile. Inhaling the dust is not recommended! Cyanolit or Araldit Rapide are the adhesives to use. Alternatively, one can use polyester putty which has the advantage of both sticking and filling the larger gaps and can even be worked 10 minutes after its application.

The quality of the model is of a high level considering that it is a home-made product. Some of the well-known vacuforms do not offer the same degree of finish. What is there to be criticised? Having carefully studied the model and checked the smallest details against references in our possession, we can confirm that it is almost perfect. However, it seems that the upper surface of the wing, near the root fairing, is not sufficiently curved, resulting in a wing that is too thin in the area of the undercarriage bays. The most serious fault is in the outline of the fin and this is very obvious to those familiar with the Morane. The top of the fin should be wider than the rudder, whereas, on the model, it is the same width or perhaps even narrower. The remedy is simply to build up the leading edge of the fin and render it more vertical. If you succeed in this corrective surgery, the remaining work will seem extremely simple. The fact that the fuselage is too long (173.5 mm instead of 170 mm) and the span is too short (219 mm instead of 221 mm) is hardly noticeable. The ventral radiator is also a little too short. Its length should be increased by 1 mm both at the front and the rear, at the same time correcting the shape of the intake which slants too much towards the rear. Viewed from the front, the upper corners of the intake form too sharp an angle with the fuselage and should be much rounder (see sketch).

The bottom of the fuselage, just behind the radiator housing, should be a little plumper in order to be at the same level as the latter. About 1 to 1.5 mm of putty should do the trick. In plan view, the expert eye will

notice that the wings and tail plane have just a little too much taper. The error is so small that it can be ignored. (Are you in the habit of contemplating a Morane from above?) The proportions of the cockpit cover are incorrect. The windscreen is too short by about 1.5 mm, the sliding part is too long by some 3 mm and the fixed part at the rear is also too long by 1 mm. These small errors add up given that the pilot's seat is also placed about 3 mm too far back. (The seat back should be in line with the rearmost frame of the sliding cover.) The best way to correct the cockpit which, in our opinion, detracts from the final appearance of the model, is to do away with everything and to mold a new cover or make one from pieces of transparent plastic. The original cover, removed from the fuselage and with its proportions corrected, can act as a master. In order to be completely sure, refer to the photo on page 238 of Urech's book. Do not depend on the 3-view drawing supplied with the kit as it contains too many errors. To finish this part, we would point out that the diameter of the tail wheel is about 1 mm too small and that its support should be slightly inclined towards the rear.

Let us now come to the construction. We repeat that this is not a traditional model but a model that is made of a material that is quite easy to work. The first task is to hollow out the cockpit interior (use a dentist's tool on your mini-drill) in order that the supposed pilot will not be too cramped. The seat and instrument panel are included in the kit but the experienced modeler would do better to furnish the cockpit from his spares box. The three faces of the instrument panel can be copied from photographs. Behind the seat (do not omit the khaki-brown harness) there should be an armored panel (reinforced by tubes) on the top of which is fixed the head rest. Just under the latter you can also reproduce the aircraft log book and right at the back of the fixed canopy, against the bulkhead, the radio. It is possible that the kit has the exhaust deflector plates broken or badly molded. It is, therefore, preferable to replace them by 0.5 mm thick strips of plasticard. It is also necessary to rework the bulges at the bottom of and just behind the fixed part of the canopy. These have the appearance of air intakes but they are, in fact, stops for the sliding canopy. All the holes, which are air bubbles inherent in the manufacture of the kit, should be filled and the numerous depressions and holes of the real aircraft should be tidied up. As these differ from one aircraft to another you are, once again, recommended to refer to photographs.

The fuselage assembled and sandpapered, the grill under the spinner can be improved and the wings assembled at the correct angle by means of the metal pegs provided. The same operation is repeated for the tailplane, carefully positioning the struts made from stretched sprue and sticking them with Cyanolit. The main undercarriage legs have a metal core and are integral with the door. They lack, however, the rearward inclined auxiliary struts which should be made from stretched sprue and stuck directly to the door. Note that the diameter of this strut is less than that of the main leg. The characteristic actuators should be carefully made using photos as a guide. This is quite an easy task as they are obvious in any photograph. It is necessary to considerably reduce the thickness of the undercarriage doors and remake the diagonal bulge at the bottom center. Add the little dome and the small door at the top of the main door which were erased during the filing and sanding. The undercarriage bays are, of course, cleaned up before fixing the undercarriage in place. This operation is a little delicate as the mounting position given in the kit is incorrect. The main leg should be placed closer to the leading edge of the wing by approximately 2 to 3 mm. In order to ensure that the assembly is really rigid, it

can be reinforced by a 0.5 mm diameter steel rod.

Our model is nearly finished. There remains only to add a few details: The landing light (a spot of silver paint and Kristal Kleer) under the left wing between the undercarriage door and the pitot tube (it can also be shown extended); the left and right navigation lights (transparent plastic with a drop of red and green paint); the venturi tube on the right and in front of the cockpit (from a hypodermic needle); the main aerial mast (metal) offset 4 mm to the right of the center line of the aircraft; the aerial mast on the fin (0.5 mm diameter steel wire); the aerial wire (0.2 - 0.3 mm nylon or the steel wire supplied with the kit) with an insulator at each end and a down wire to the radio; the cartridge and link ejection chutes under the wings; the undercarriage position indicator on the upper surface of the wing above the main undercarriage leg; the lines for the brakes and actuators in a light brown color (copper wire or cotton). Pay attention when mounting the propeller blades; these turn anti-clockwise as seen by the pilot.

Our airplane is painted schwarzgrun 70 (Humbrol HG1) on its upper surfaces and hellblau (Humbrol HG5) on its under surfaces and inside the cockpit. The red and white neutrality bands and national cross were hand painted although it is possible to use decal sheet. Note the proportions of the cross! A sheet of decals is currently in preparation and will be obtainable separately.

The serial number of the aircraft and the various triangular and round symbols (oxygen, oil, etc.) were first painted on plain decal sheet and then placed on the model. The sharkmouth was hand painted directly on the model using photographs (Fana 11) as a guide. The propeller blades are black with two narrow, white bands at their tips (on the front surface only). The spinner is red and white. The tip of the pitot tube is aluminum as is the sliding part of the undercarriage.

With this description we have wanted to be as precise as possible. Whether one does, or does not, carry out the

improvements described above, we think that all modelers with an interest in Swiss aviation will have pleasure in acquiring this model, particularly as no manufacturer of injection molded kits will risk making a D-3801 in any scale. There are indeed poor 1/72-scale kits of the Ms-406 made by Frog and Heller which, of course, can be modified to the D-3801, but this is no longer worthwhile seeing that the 1/48-scale kit now exists.

The kit can be obtained by mail order from: Manuel Schmid, 2 rte. des Vernes, CH-1217 Meyrin SWITZERLAND for US \$12.50 postage included, but without decals. Payment can be made by transfer to bank account: Aurore-Models, M. Schmid, no. 101.547-00, Credit Suisse, Geveve-Balexert; or to post office giro account no. 12-8502.

(1) 'Fanatique de l'Aviation' is a French monthly magazine commonly known as 'Fana'.

(2) J-277 at Le Bourget is a Swiss Morane bought by the French for Sfr 100!

(3) Urech's "encyclopedia" was originally published in German and later translated into French and English. In the latter language it is "The Aircraft of the Swiss Air Force since 1914" by Jacob Urech and published by Verlag Th. Gut and Co. of Stafa, Zurich, 1975.

(4) 'Cockpit' is a monthly Swiss magazine published in German and aimed at the younger aircraft enthusiast. (Not to be confused with the Dutch publication of the same name.)

(5) The two museums mentioned are the Swiss Air Force Museum at Dubendorf near Zurich and the Air Museum at Le Bourget near Paris.

Richard Forster (IPMS SWITZERLAND)

(Editor's note: This article was originally published in VIRUS PLASTICUS 4/82. This translation, by Mike Kirk, is reproduced here with the kind permission of IPMS SWITZERLAND.)

-abstracts-abstracts-abstracts-abstracts-abstracts-abstracts-abstracts-abstracts-abstracts-abstracts-abstracts-

(Continued from page 94)

SOUTH AFRICA

AFRICAN AIR REVIEW (AVIATION SOCIETY OF AFRICA, PO Box 1413, Alberton 1450; 4 issues for US \$12.00)

1-3 84 (20 pages) "African Air Forces - Lesotho" one page including aircraft list (Skyvan, Cessna A152, Bo.105, Bell 47G, Mi-2, Agusta-Bell 412, Beech Baron, Cessna 182Q). "Aviation in Lesotho" 2 pages including map of airports. "Southern African Registers" 2+ pages of Lesotho registry. "News" (Angola: 37 Gazelles ordered; list of combat losses. Zimbabwe: 2 Agusta-Bell 412 and 5 SF.260TP ordered; 6 CASA Aviocars delivered; last 7 AL.60BFS sold.) Photos: Junkers F.13FE 'ZS-AEA', Ju 52 'ZS-AFA'; Lesotho Do.128 '7P-LAF', Fairchild FH-227B '7P-LAH', & Cessna TU206F '7P-JCW'.

SPAIN

AIR SONIC (Balmes, 86 - Entlo. 2.a, Barcelona-8, ESPANA)

Nothing received since #16.

SWITZERLAND

VIRUS PLASTICUS (IPMS SWITZERLAND, Olivenstr. 2, 9320, Arborn; 4 issues for Sfr 24)

1/84 (32 pages) "L'Etrange Affaire des Mirage Suisses" 7 pages including 5 photos of the Mirage and Draken which flew in competition for the Swiss order. "Les B-17 'Suisses' du 17 Aout '43" 2 pages of text on the first two B-17s (B-17F 'High Life' and 'Peg of my Heart') which found refuge in Switzerland on 17 August 1943. 'Peg of my Heart' made a belly landing; it was dismantled and scrapped by the Swiss. 'High Life' lost a wheel on landing, but it was repaired and stored until after the war when it was scrapped.

USA

WWI AERO (Leonard Opdycke, 15 Crescent Rd., Poughkeepsie, NY 12601; 5 issues \$15)

100 (114 pages) The editorial suggests that an "organization of aviation organizations" might help us to help each other; if you're interested drop Leo a line. Scale drawings of the SIT-Bleriot 1914, Grade Eindecker, Martinsyde Elephant, Rex Scout, and Sopwith Bat Boat.

DIRTY PLASTIC (IPMS PHOENIX, 509 W. Camino Dr., Phoenix, AZ 85021; 4 issues for \$6.00.)

Summer 1984 (20 pages) "The Hasegawa Pete in 1/72 Scale" 8 pages with 14 side-view drawings. Side-view drawings of 16 assorted Japanese aircraft, "Names & Nicknames of Japanese Aircraft", and "1/72 Japanese Aircraft Kits".

IPMS HAWAII (1650 Lehia St., Honolulu, HI 96818; \$4.00 per year)

#12 (16 pages) "Tora, Tora, Tora" Entire issue devoted to the attack on Pearl Harbor including critical reviews of books and kits. Particularly good coverage of the USS Arizona including photos of the 1/96-scale model at the USS Arizona Memorial Museum.

AIR INTERNATIONAL

Canada: Wardair: Flying Charters with Style. Vol. 26, No. 1.

Chile: The Chilean Air Force. Vol. 26, No. 2.

Iran: The Ayatollahs' Air Force. Vol. 26, No. 6.

Malaysia: Malaysia Reshapes Air Power. Vol. 26, No. 4.

Spain: Spain's Rotary Soldiers. Vol. 26, No. 6.

Compiled by Tor A. Scott (SAFCH #403), 168 59th Ave., Chomedey, Laval, Quebec, CANADA H7V 2B8

418 CITY OF EDMONTON SQUADRON HISTORY, Vaughan. 120 cm by 21.5 cm pages (hardbound), 200 black-and-white photographs, 8 full-page color photographs, 2 3-view drawings, 4 cutaway drawings, one map, nose art, and cartoons. \$21.95. The Hanger Bookshelf, PO Box 1513, Belleville, Ontario, CANADA K8N 5J2.

Another excellent squadron history from Canada. One half of the book follows 418 Squadron as they operate Bostons and Mosquitos over occupied Europe in the exacting role of 'night intruder'. In 37 months of operations, the squadron flew 3,492 sorties; and destroyed 178 enemy aircraft (105 in the air and without the assistance of Aifborne Interception radar), 83 V-1s, and numerous ground targets. In return, the squadron lost 59 aircraft during operations with 93 airmen killed or presumed dead. (Why, after all of these years, do authors retain the "presumed dead" category?)

The second half of the book describes the less lethal, but no less interesting, post-war activities of the squadron. The equipment employed during this time reflects Canadian military planning. First, the squadron was equipped with Mitchells and Harvards and it served as part of Canada's Mobile Striking Force. The MSF was designed to "provide an immediate and rapid counter to enemy lodgements" in western Canada. It seems that the Canadian's were as worried about a Soviet invasion as they were that the US might "infringe upon the sovereignty of Canada" if it felt its supply lines to Alaska threatened.

In 1958, the Canadian government decided that an invasion of Canada was highly improbable, and that the main threat was that of nuclear war. Therefore, 418 Squadron was assigned such tasks as aerial radiological monitoring, transportation of medial personnel, etc. The Mitchells were replaced first by Expeditors (Bug-smashers) and then by Otters. If the accounts of Texans being used by a major power for army support in the late 1950s seem anachronistic, consider the following report of the 1964 summer camp: "No doubt the element of surprise turned the tide for the Canadian's as the Welsh were shocked to see an attacking force of 418 Squadron Otters swoop down on them. As the Squadron roared over the 'enemy' lines at 50 mph the crewmen leaned precariously out of the open doors and using the point where the wing strut joined the fuselage as a bomb sight released prophylactics filled with purple-coloured water. The Welsh troops had witnessed many bizarre sights in battle but this rain of terror from Canada's tactical air power was quite unique!" Substitute 'Tiger Moth' for 'Otter' and '1938' for '1964' to get some idea of how much the democracies have learned about preparedness from World War II.

In 1975, 418 Squadron re-equipped with Twin Otters (Twotters)

Included in this book are cutaway drawings of the Boston III, Mosquito NF VI, Otter, and Twin Otter, as well as scale drawings of the Boston and Mosquito. This latter choice is rather stange considering the need for good Otter and Twin Otter drawings.

For this reviewer, the highlights of the book were (1) the descriptions and photos of Mitchell operations (These include a cartoon titled "Air Defence Radar Penetration Exercises" which shows a B-25 flying below the tree tops while a lad in the radar site comments "You know, I thought I heard an aircraft" to which his buddy replies "You're dreaming! Have a coffee"), (2) the photos and drawings of nose art from Al Capp's Dog Patch including Lil Abner, Daisy Mae, Mammy and Pappy Yokum, Moonbeam McSwine, Hairless Joe, Lonesome Polecat, and The Shmoo, and (3) a full-page color photo of Twin Otter '806' in the all-yellow 'Rescue/Sauvetage' color scheme.

As you can tell, I liked this book and I can recommend it highly both because of its descriptions of war-time and peace-time operations and because of the quality and quantity of the illustrations. The only thing I can complain about is my usual complaint about squadron histories; why don't they include a list of all squadron victories with the serial numbers and codes of the aircraft involved?

Squadron histories for 421, 440, 417, 408, and 416 Squadrons are available from The Hanger Bookshelf at the same cost as this history. Unless you specialize in Canadian aviation, you will probably not need all of these, but everyone should pick up at least one to see how an interesting squadron history should be written.

CRONICA DE LA AVIACION ESPANOLA, Grange and Pecker. 24 x 30 cm, 272 pages, 335 illustrations including 78 in color. Hard bound.

On the bases of the table of contents and some sample photos included in an advertisement recently recieved, this looks like an excellent book for anyone whose interest in Spanish aviation extends beyond the Civil War. The chapters listed are: Los Globos - Aerostacion Civil, Del Globo al Dirigible - Aerostacion Militar, Los Primeros Aeroplanos en Espana, La Campana de Marruecos (I) - De 1909 a 1914, La Campana de Marruecos (II), Aviacion Comercial Hasta 1936, Construccion Aeronautica Hasta 1936, El Vuelo del "Plus Ultra", Dos Raids en Patrulla, "Jesus del Gran Poder" y "Cuatro Vientos", Dos Raids Civiles: Pombo y Rein Loring, La Guerra Civil Espanol, Aviacion Militar Durante la Postguerra, Aviacion Comercial en la Postguerra, Aviacion Comercial Desde los Anos Setenta Hasta Ahora, Aviacion Deportiva, Aviacion Militar Actual, Construccion Aeronautica Actual.

The price of the book was not mentioned, so anyone interested is advised to write directly to the publisher: Silex & Edicions, Cid 4, Madrid-1, SPAIN

OFH Nachrichten Sonderheft (Special publications of the Austrian Aircraft Historians, Kannngasse 1/15, A-1150, Vien/Vienna). Softbound, in German, OS 50 (approximately US \$2.50).

#8 "Chronik des Fluggeschmader I (Flik 101 G) 1917-1918" (109 pages - 16 photos) History (11 pages), list of "personal" with biographies (27 pages), list of individual aircraft with descriptions of flights (25 pages), and a squadron 'log' covering the period from April 1917 to April 1918. 1/72-scale 3-view drawings: HB D.I serie 28; HB C.I serie 29; Offag C.II serie 52; HB G.I serie 82; Berg C.I serie 37 & 38; Gotha G.IV serie 08. 1/72-scale side-view drawings: HB D.I serie 65 & 65.7; HB C.I serie 26, 61, 68, 69, 269, 429.

#9 "Lipezk: Die Geschichte des deutschen Fliegerausbildungs- und Erprobungszentrums in Russland 1925-1933" (31 pages - 8 photos) Side-view drawings: Junkers A.20, A.35, F.13, & G.24.

#10 "Phoenix: Marine-Jagdeinsitzer" (26 pages - 12 photos) History with technical data, serials (e.g., D.I's A.97 to A.118 reserIALIZED J.1 to J.20 respectively); and operational 'log' from 19 May 1918 to 10 October 1918 (6 pages). Photos: Prototype 28.24 & 20.14; D.I A.97; D.I A.100 (3); D.IIa J.31 (4); D.III S (2); and Swedish (2). 1/72-scale 3-view drawings: D.I, D.II, D.III, & Schweden.

AVIATION COLLECTORS MARKET, The International Advertisement Magazine, No. 1 May/June 84. Twelve 5.5 inch by 8.5 inch pages. Quarterly. \$1.00 each. BCFK Publications, PO Box 128, Midland Park, NJ 07432.

A familiar name in aviation publishing (remember the "Airplane Five-View Album" of some ten years ago?) is back with an interesting concept. Specifically for "aviation enthusiasts who want to buy, sell, exchange and/or correspond", this little publication is a collection of 'wants and disposals' from all over the world. An interesting twist is that the issue is mailed to non USA and Canadian subscribers one month before the others, thereby reducing the 'home court advantage'.

Items of interest to SAFO readers include requests for informatin on Mexican Air Force 201 Squadron, Corsairs in Latin America, 303 (Polish) Squadron, and American participation in the "Chaco" conflict. (Why does everybody 'want' information? Why doesn't anyone ever have information for 'disposal'?)

Advertising rates: Individuals 20¢ per word. Business 40¢ per word.

"I read with interest the story of the Embryo Indonesian Air Force in SAFO #30 and thought you might be interested in the serial numbers of the Mustangs transferred to the NEI in 1945. I suspect that I also have the serial numbers of the P-51s transferred to the NEI in the 1950s, but I haven't attempted to pick them out yet. Are you are interested? (Editor's note: Is the Pope Polish?)

"44-12749 through 44-127758 (d/d 3-45); 44-13040 through 44-13049 (d/d 4-45; 44-13045 apparently delayed); 44-84469 through 44-84478 (d/d 6-45); 44-84793 and 44-84794 (d/d 6-45); 44-84796 through 44-84803 (d/d 6/45).

"Three additional F-51s were allotted to the Netherlands, but it is unknown whether they actually went to the NEI or remained in Europe. The transfer code indicates #51, whereas the NEI transfer code was #52: 44-12125, 12149, & 72770 (d/d 12-46)."

David R. McLaren (SAFCH #676), 2055 Sapphire Laner, Aurora, IL 60506

"Some comments of SAFO #31: The cover photo and the photos inside the front cover do not illustrate Chilean Fords. I have original negatives of these aircraft (and two others) and I also have photos of all four of the actual Chilean birds, and they are not the same. Bill Larkins, a Ford authority without equal, agrees that they are not Chilean aircraft. A clue: the Fords illustrated were taken at the same location as the Bellanca Model 77-140's of the Columbian Air Force. My thesis is that they are Columbian Air Force aircraft and that the wing roundels had been either painted incorrectly, or were not completed when the photos were taken. For a time, I thought that they might be Ecuadorian (the roundel and rudder stripes are the right proportions) but Ecuador's air force never operated any Fords. A cancelled order? Perhaps, but there is no evidence to substantiate this assumption.

"I enjoyed the nice Chipmunk survey by Chester Zaba. There is a bit of a problem with c/n C1-0971, the single Columbian Air Force example delivered in January 1954. I have firm evidence that the aircraft (together with the truck on which it was being carried) went over a precipice on the road between Palancual and Bogota following arrival from the manufacturer by ship. Both were destroyed. However, Air Order of Battle reports for 30 June 1954, 31 December 1956, and 31 June 1957 all show one Chipmunk on strength! Was the aircraft repaired? Were the headcounters including the remains languishing in a corner of a hanger? This latter is a common practice in countries where write-offs are not always write-offs.

"With regard to the Uruguayan Air Force Chipmunks delivered 30 April 1955 (c/n's C1-0951 to 0954, 0969-0970, 0977-0980) and serialized FAU 600-609 (with one carrying the serial E-604 for a period), Chester's contention that they served briefly before being passed to civil flying clubs is not accurate. They served with honor as late as April 1966, when the last were finally withdrawn. Only one is certain to have gone to the civil register (FAU-607, c/n C1-0978 became CX-AVA and was operated by the DAC). There are several other candidates for the civil register (such as CX-BBG & BBO), but the c/n's given for these aircraft on the civil register (c/n DHB-849 & 853) bear no relation to those of the FAU aircraft. At least one FAU Chipmunk went to the FAU Museum.

"The SEAR Snippets are always interesting. The Mexican Navy has operated at least 20 HU-16s, and many of these are ex-Canadian CSR-110s. I'd be interested in seeing the previous identities known for the 12 aircraft cited. And, strictly speaking, the Uruguayan Cessna 185s are not 185s; they are U-17A's."

Dan Hagedorn (SAFCH #394), c/o 6602 Clover Bend, San Antonio, TX 78138

(Editor's note: Several letters have recently been received from SAFCH members who are working on books of small-air-force interest. Portions of these letters are reproduced below in the hope that SAFO members can help. I suspect that these projects represent only a small fraction of the work going on, so if you have a publication in the research stage, feel free to ask for help.)

"Lately I have been very busy on a DC-2 book and I hope to have it published soon. It contains very interesting information on the Finnish and Australian aircraft. Can anyone help with information on surviving DC-2s in South America or on the ones used in South American Air Forces?"

Joop Wenstedt (SAFCH #657), Dommelstraat 11, 5662 EL Geldrop, NETHERLANDS

"All my spare time is devoted to preparing material for a book on the aircraft used by the Polish Air Force 1918-1922 to be published by Wydawnictwa Komunikacji i Łączności. Do any of our readers have information on this subject that has not been published in Poland? In addition, I need good plans and drawings of the aircraft flown in Poland during this period; these will be compared to the plans I already have to insure that the book has accurate three-views. (I particularly need plans for the AEG C.V, Albatross C.VIII, DFW C.VI, Rumpler C.VI, Sablatnig C.I, Hansa Brandenburg N.I, Offag C.I, Nieuport 16C1, and Nieuport 21C1.

"I am also continuing work on a follow-on to my TBU on the Spitfire, and I am acting as an advisor for the forthcoming TBU on the Halifax. In the future I am planning to put together TBUs devoted to the Douglas Boston/Havoc and Gloster Meteor. Please ask our readers to keep their eyes open for material on these subjects."

Kris Chołoniowski (SAFCH #96). Please send all information to the SAFCH editorial office for forwarding to Kris.

"The Finnish Air Force has ordered 18-20 Drakens from Sweden, not the 10-12 previously reported. The FAF received two Draken instructional airframes (B-type) in 1974; one (ex RS-WAF 35252) is now at Halli and the other (marked DK-200) is at Rovaniemi. These two aircraft have never been flown by the FAF.

"The two MiG-21UM delivered in 1981 are serialized MK-126 and MK-143.

"The Mi-8 ordered in January 1983 to replace the Mi-8 (serial HS-12) that ditched on 13 April 1982, was delivered in August 1983 and received serial HS-14. Reports of HS-7 and HS-8 are most likely incorrect. HS-11 and HS-13 are now OH-HVA and -HVB respectively and belong to the Border Guard, a paramilitary force that takes care of border patrolling, SAR duties, etc. HS-14 will become OH-HVC during the Autumn of 1984.

"The Mi-8 has been found to be unsuitable for sea SAR duties and it will be replaced with another type during 1986-87. Three new helicopters will be bought with the Super Puma and Sea King being the favorites. The Border Guard will also order three smaller helicopters in 1984-88 for sea SAR duties; possible types are the Bell 412 and Aerospatiale Dauphin. The current Border Guard fleet consists of two DHC-2 Beavers (OH-MVM & MVL), two Piper Navajos (OH-PRA & PRB), three ex-FAF Safirs (OH-SFB, SFD, & SFE), five AB-206A Jet Rangers (OH-HRD, HRE, HRF, HRG, & HRJ) (OH-HRJ is ex-FAF HB-1), two AB-206B Jet Rangers (OH-HRH & HRI), and the above-mentioned Mi-8s.

"The two Hughes 500D delivered in July 1983 are serialized HH-4 and HH-5. HH-3 was a Hughes 369HS, ex OH-HIT, which was leased from December 1982 to July(?) 1983.

"The Fokker F-27-400M Troopship, serial FF-3, was delivered in February 1984. It was test flown as PH-EXL, and is c/n 10662, not 10650 or 10649 as reported earlier.

(Continued on page 116)

ORUNGAN

SEA GOD OF THE SOUTH ATLANTIC

On 30 December 1958 all work stopped at Salvador Air Base (Bahia State) while everyone gathered to watch five Lockheed P2V-7 Neptunes arrive at the end of their long flight from the United States of America. These were the first of a total of 14 Neptunes ordered by the Brazilian Air Force.

The aircraft purchased by Brazil were built by Lockheed in 1951. Initially delivered to the US Navy, but they operated with this service only until 1953 at which time they became part of a deal for 30 Neptunes transferred to the RAF. In 1957, they were back in the USA at Davis-Monthan AFB where they were reconditioned by Lockheed in preparation for their delivery to the FAB (Brazilian Air Force).

Four months before these planes were scheduled for delivery to Brazil, a group of 27 officers and 56 sergeants of the FAB began a course of training at Jacksonville Air Station, Florida. Their objective was to become familiar with the operation of the airplane and its sophisticated equipment so that they could implement instructional and maintenance programs of a complexity heretofore unknown in the FAB.

The Neptunes were delivered to Brazil over a period of months. After the arrival of the first group of five, several aircraft came individually, and the last group to arrive consisted of three aircraft. The delivery flight to Brazil started in Fresno, California, with routine stops in Jacksonville, Puerto Rico, Trinidad, and Belem (Para State).

The only incident during the delivery flights befell Neptune '7003' piloted by Captain Nelson Alves Santiago. While on an airway normally flown by civilian and military aircraft and well out of any restricted airspace, '7003' was intercepted by two Mustangs and a Vampire jet of the Dominican Republic Air Force. The pilots of the intercepting aircraft signaled the Neptune to change course towards their country, but Captain Alves knowing that he was flying in a recognized international airway and was authorized to proceed according to ICAO rules refused to deviate. Suddenly, one of the F-51Ds began firing his machineguns. Since the Brazilian Neptune was completely unarmed, Captain Alves had no choice but to follow orders and head for San Isidro Air Base in the Dominican Republic. Upon landing, '7003' was immediately surrounded by tanks and heavily armed soldiers. Captain Alves and his co-pilot were hustled off the the operation's room where they suffered the verbal abuse of a Major of the Dominican Republic Air Force. The Major's arrogant behavior changed to one of courtesy immediately after he made a telephone call to higher authorities; he apologized profusely and offered to put all the resources of his base at the disposal of the Brazilian crew. One hour later, '7003' was again in the air headed towards Brazil.

In Brazil, the Neptunes operated with the 10/70 GAv (Aviation Group) at Salvador Air Base and were initially designated 'P-15'. (During the 1960s they were redesignated 'P-2E', but in 1971 they were once again called 'P-15'; a designation they retained until they were withdrawn from operations in 1976.) During 1959, new crews were formed in 10/70 Aviation Group and with the arrival of the remaining Neptunes operations assumed normal proportions.

Because VARIG's Constellations used the same motor as the Neptune, maintenance was assigned to the VARIG workshops at Porto Alegre (Rio Grande do Sul State).

Brazil was the first country in Latin America to receive and operate the Neptune. When they were delivered, the aircraft were equipped with both offensive and defensive weapons. The defensive weapons, consisting of six 20-mm cannons in the nose, two 12.6-mm machine guns in the dorsal turret, and two 20-mm cannon in the tail turret, were removed at the beginning of the 1960s.

However, the aircraft continued to carry offensive weapons: sixteen 5-in. rockets mounted on racks under the wings plus internal storage consisting of 3629-kg antisubmarine mines, sonobuoys, etc.

Main Events during Neptune Operations in Brazil

1. From 21 September until 29 October 1960, Neptune '7011' was at Jacksonville, Florida, for reconditioning by the US Navy.
2. From 13 to 28 November 1960, Neptunes '7005', '7009', and '7011' took part in UNITAS OPERATION I operating on the route Salvador, Galeao (Rio de Janeiro), Salvador.
3. From 23 to 28 April 1961, Neptunes '7009', '7010', and '7011' took part in UNITAS OPERATION II operating along the same route as in 1960.
4. A South-American air-endurance record was set by Neptune '7013' on 8/9 December 1961. Flying between Gravatai () and Belem, the aircraft stayed in the air for 24 hr 35 min without refueling. The crew consisted of eight men commanded by Major Val with second pilot Captain Mello.
5. From 17 to 23 December, Neptunes '7000' and '7009' participated in ESTORIL OPERATION, a flight across the Atlantic Ocean to Lisbon, Portugal. The route followed was Salvador, Recife (Pernambuco State), Salt Island (Virgin Islands), Lisbon, Salt Island, Salvador.
6. From 30 October to 18 November 1965, Neptunes '7000', '7003', and '7011' took part on UNITAS OPERATION IV operating along the route Salvador, Santa Cruz (Rio de Janeiro), Gravatai (), Salvador.
7. On 22/23 July 1967, Neptune '7011' established a new South-American air-endurance record by staying in the air 25 hr 15 min without refueling. The route followed was between Gravatai and Santa Cruz. The crew consisted of 11 men commanded by Major Siudomar with Captain Ivan second in command.
8. From 25 October to 11 November 1967, Neptunes '7000', '7002', '7010', and '7011' took part in UNITAS OPERATION VIII operating the route Salvador, Gravatai, Santa Cruz, Salvador.
9. Between 30 January and 20 February 1968, Neptunes '7002' and '7010' took part and supported the Rio de Janeiro-Buenos Aires Regatta operating the route Salvador, Galeao, Santa Cruz, Gravatai, Ezeiza (Buenos Aires), Gravatai, Santa Cruz, Salvador.
10. From 25 July to 9 August 1968, Neptunes '7002' and '7010' took part in UNITAS OPERATION IX. This was the first time the operation took place over international waters; the route was Salvador, Belem, Piarco (Trinidad), Roosevelt Roads (), Barranquilha (Puerto Rico), Paramaribo (Surinam), Belem, Fortaleza (Ceara State), Salvador.
11. Between 5 and 20 February 1969, Neptunes '7010', '7012', and '7013' flew across the Atlantic Ocean and the western part of Africa to Lisbon, Portugal. The route was Salvador, Recife, Ascension Island, Luanda (Angola), Monrovia (Liberia), Freetown (Sierra Leone), Bissau (Guinea), Lisbon, Salt Island, Salvador.
12. Between 12 and 20 August 1969, Neptunes '7004' and '7010' flew to Luanda (LUANDA OPERATION I). The route was Salvador, Recife, Ascension Island, Luanda, Salvador.
13. From 15 November to 10 December 1969, Neptunes '7003', '7004', and '7012' took part in UNITAS OPERATION X operating again over Caribbean waters on the route Salvador, Fortaleza, Belem, Paramaribo, Piarco, Roosevelt Roads, Salvador.
14. Between 14 and 22 September 1970, Neptunes '7003', '7005', and '7009' made another visit to Angola (LUANDA OPERATION II) using the same route as LUANDA OPERATION I.

15. From 25 August to 6 September 1970. Neptunes '7003', '7005', and '7009' took part in UNITAS OPERATION XI operating the route Salvador, Santa Cruz, Gravatai, Salvador.

16. From 19 October to 8 November 1971, Neptunes '7000', '7009', and '7012' took part in UNITAS OPERATION XII operating the route Salvador, Gravatai, Buenos Aires, Galeao, Salvador.

17. Between 23 and 26 August 1972, Neptunes '7000', '7010', and '7011' took part in UNITAS OPERATION XIII operating the route Salvador, Galeao, Salvador.

On 3 September 1976, Neptune '7009' carried out the last flight of a Neptune in Brazilian service. The aircraft, operating out of Salvador Air Base, was commanded by Lt Col Lott with Major Beuthner as second pilot, and with Capt Nilson aboard. After landing, '7009' was established as a monument at Salvador Air Base, where it stands to mark the glorious participation of 10/70 Aviation Group in the history of patrol aviation in Brazil.

Color Schemes and Marking for Brazilian Neptunes

When the Neptunes arrived in Brazil, they carried the standard USN color scheme of overall dark blue. The number '7', denoting the 7th Aviation Group, was immediately painted in a large white number bordered in white on the vertical stabilizer of each aircraft as it arrived. Beginning in 1968, the Neptunes were repainted grey and white. This scheme was not seen on all aircraft until 1970.

During UNITAS Operations, the Brazilian Neptunes carried the names of fishes and birds on their noses. Known examples are: '7000' Martim, '7002' Cacao, '7004' Dourado, '7005' Mergulhao, '7006' Mero, and '7010' Salmao. In February 1966 they used the names: '7010' Gaivota and '7011' Espadarte. In November 1965 they used '7011' Giant Petrel, '7012' Tunarao, and '7013' Xareu.

During UNITAS Operation the Brazilian Neptunes wore the operation insignia and number on the left side of the fuselage between the wing root and the vertical stabilizer.

During the African Operations, the Coastal Command (COMCOS) insignia was carried on the left wing-tip tank.

"ORUNGAN" - 10/70 Aviation Group Emblem

The emblem of the 7th Aviation Group was created in 1959 by the famous artist from Bahia State, Mario Cravo. It is based on an Afro-Brazilian legend of Orungan, descendent from Oluda, God of the air, and Obatala, God of the Earth, and the son of Iemanja, Goddess of the waters. This emblem is particularly appropriate for use by a Brazilian maritime squadron since Orungan is said to ceaselessly fly above the waters of the South Atlantic looking for his mother. In the insignia, his four arms denote the four aspects of antisubmarine warfare: detection, localization, identification, and destruction of the enemy.

The Neptunes Replacement

After the retirement of the Neptune in 1976, 10/70 Aviation Group was without any aircraft. To fill the gap, the General of Coastal Command assigned maritime patrol activity to the 20/100 Aviation Group; a SAR unit operating Albatros S-16 aircraft from Florianopolis Air Base (Santa Catarina State).

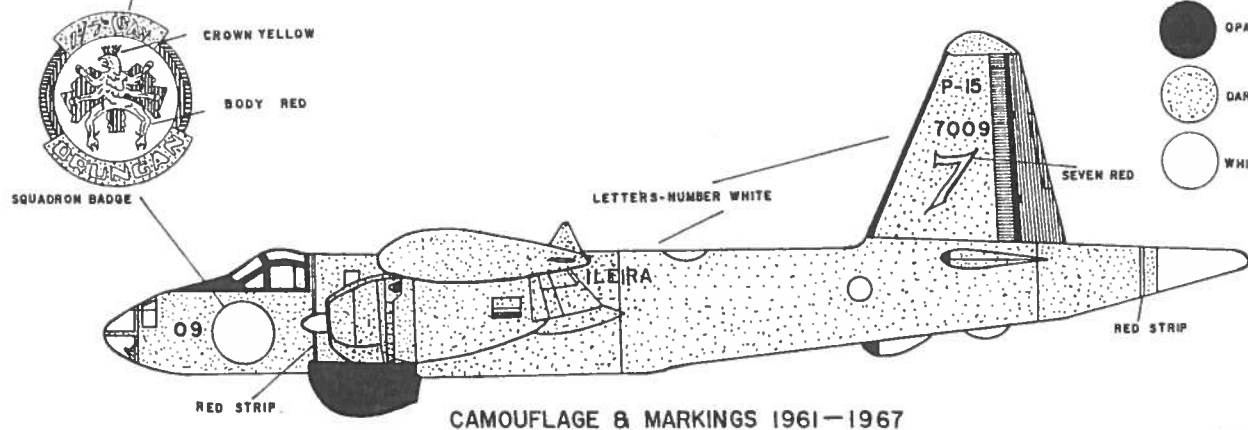
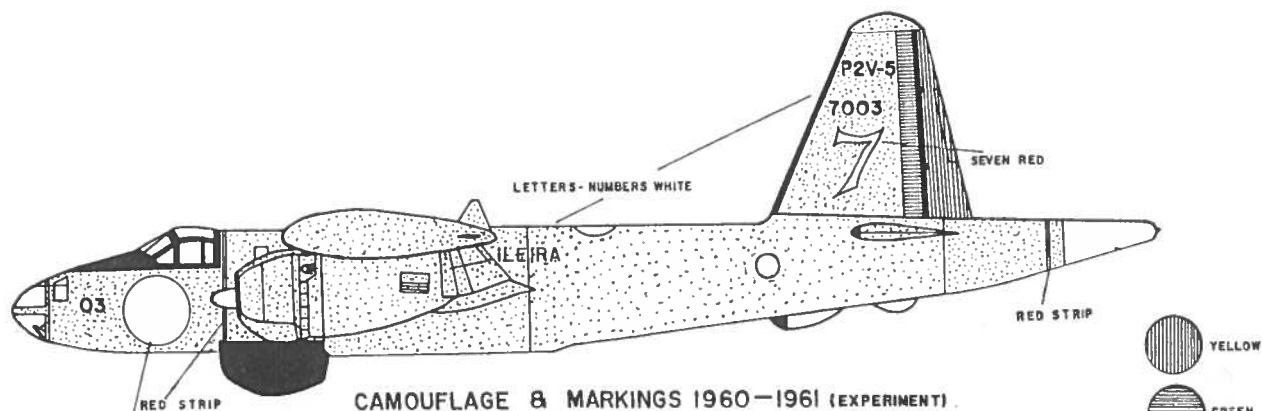
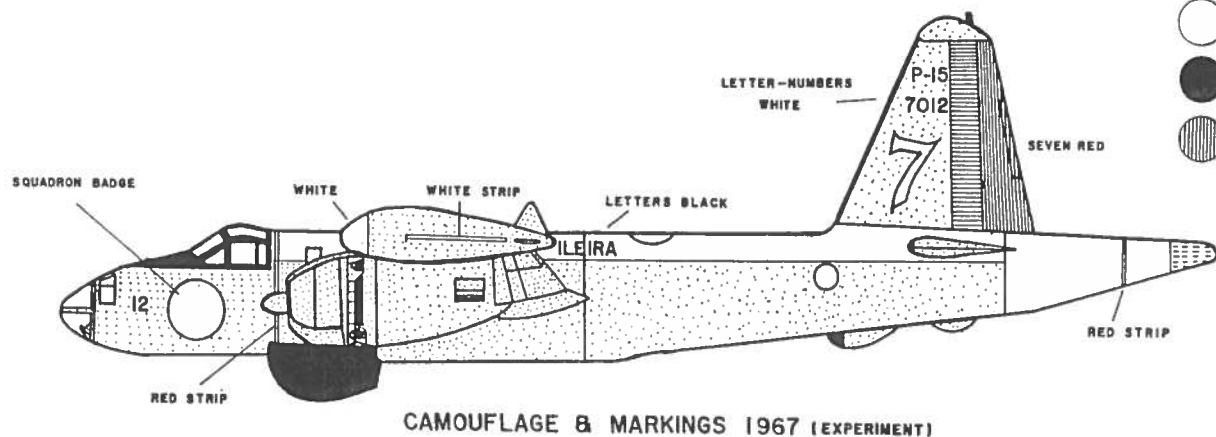
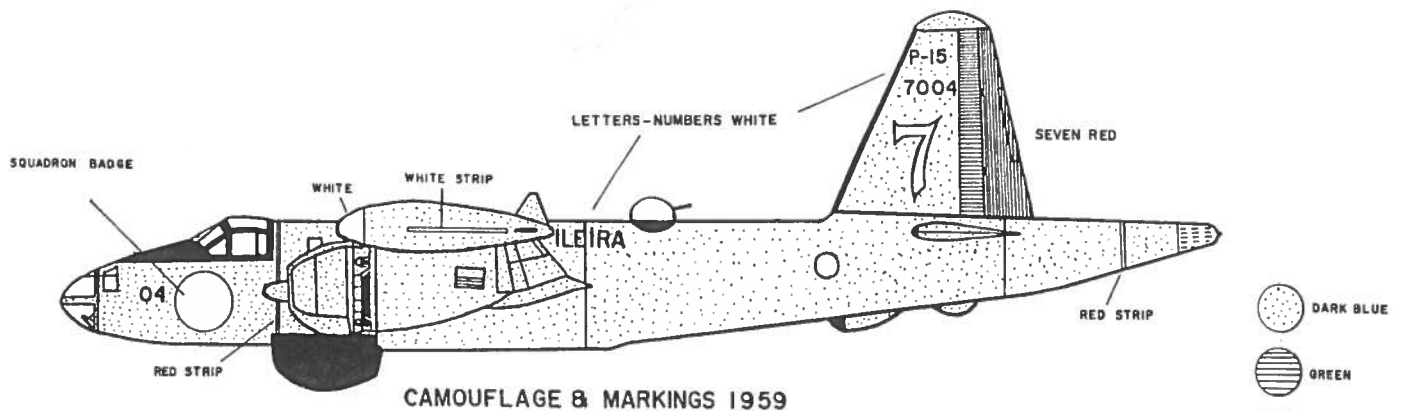
Plans for a replacement for the FAB Neptunes began to take form in 1973 when the Staff of the Aeronautics Ministry requested EMBRAER to study the possibility of adapting the Bandeirante for the maritime patrol mission. EMBRAER submission was accepted and the Aeronautics Ministry ordered 12 aircraft which were called EMB.111 by EMBRAER and P-95 by the Brazilian Air Force. The first aircraft flew in September 1977 and in April 1978, after 18 months without aircraft, regular operations with the P-95 were begun by 10/70 Aviation Group thereby returning Orungan to his true element - the sea.

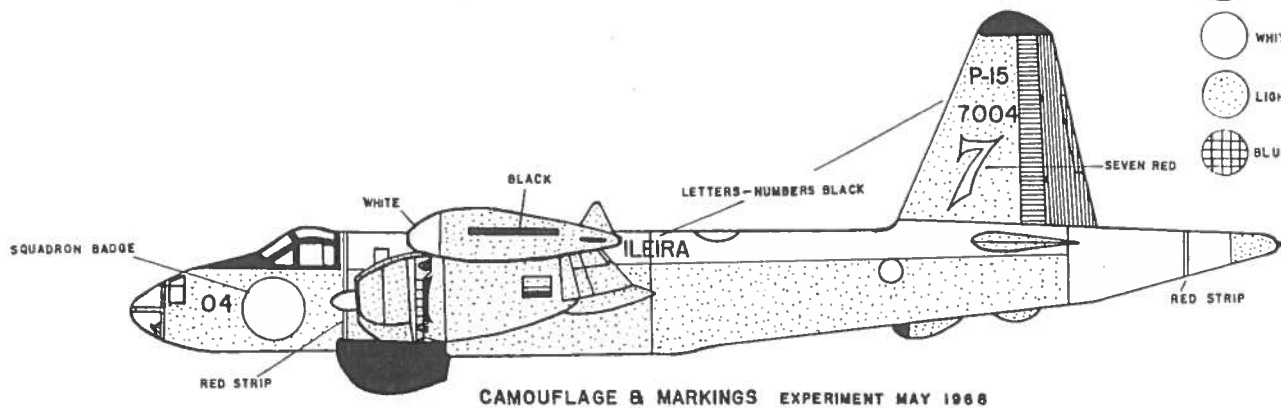
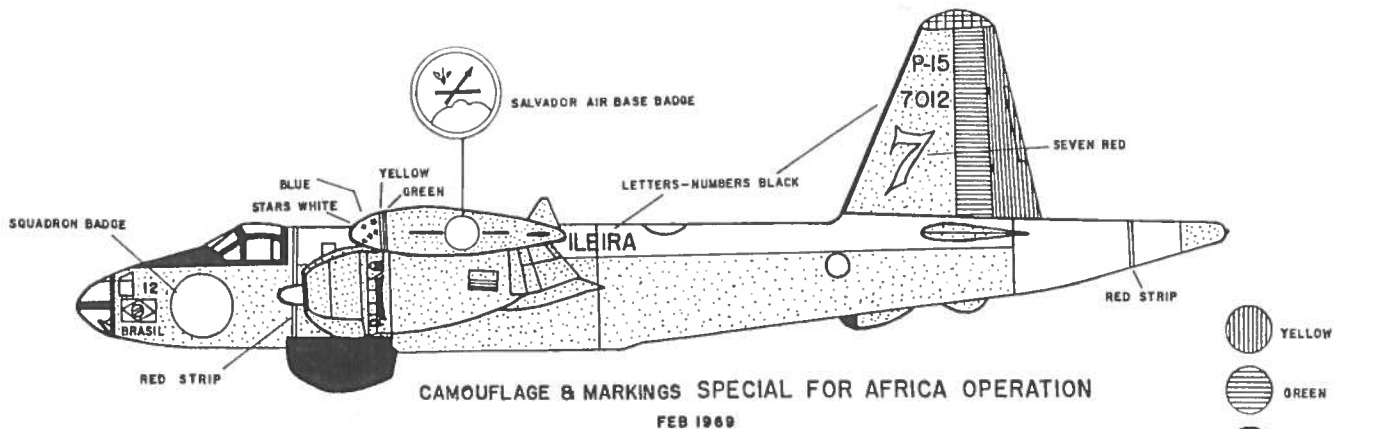
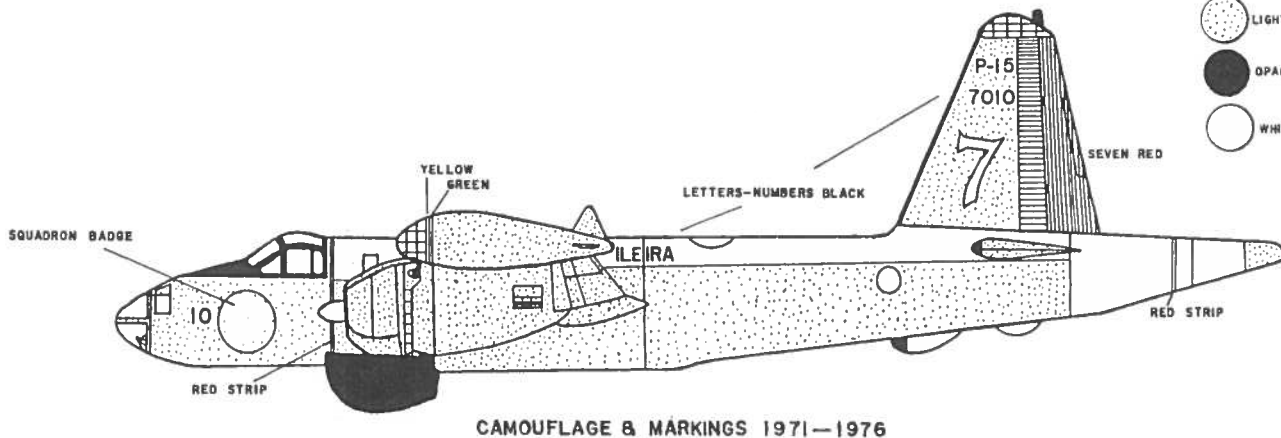
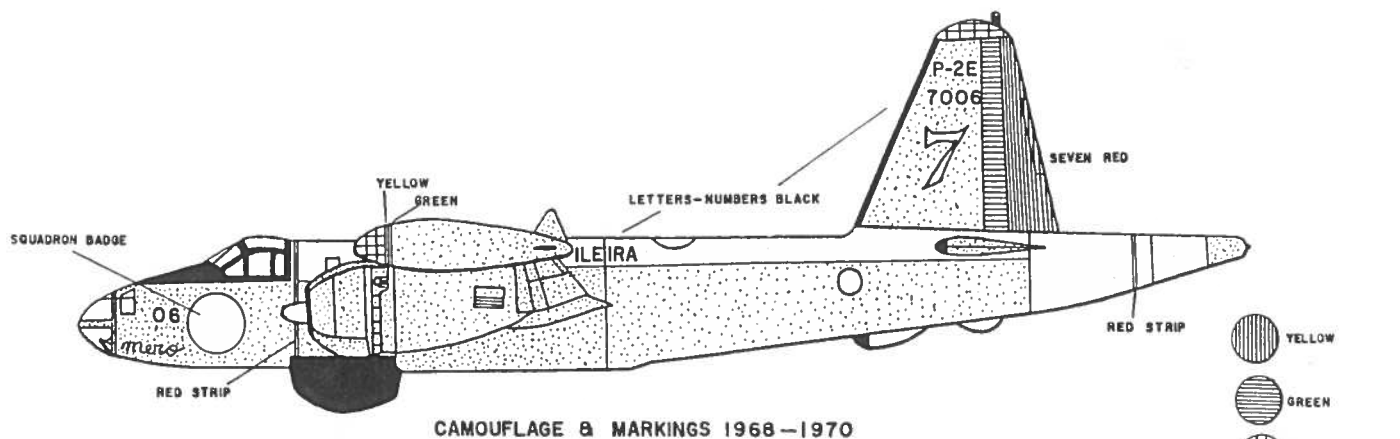
(Editor's note: The Orungan insignia is prominently displayed on 10/70 GAV ENB-111A's and has been an eye-catching feature of many recent photos of the "Bandeirulha". For example, the color photo of P-95 '7053' "Petrel" which appears in MILITAIR 1982.)

Ten Av A. Camazano (SAFCH #539), Caixa Postal 1004, Academia da Forca Aerea, 13630 Pirassununga, SP BRAZIL

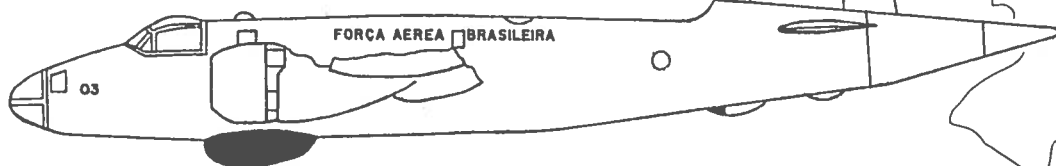
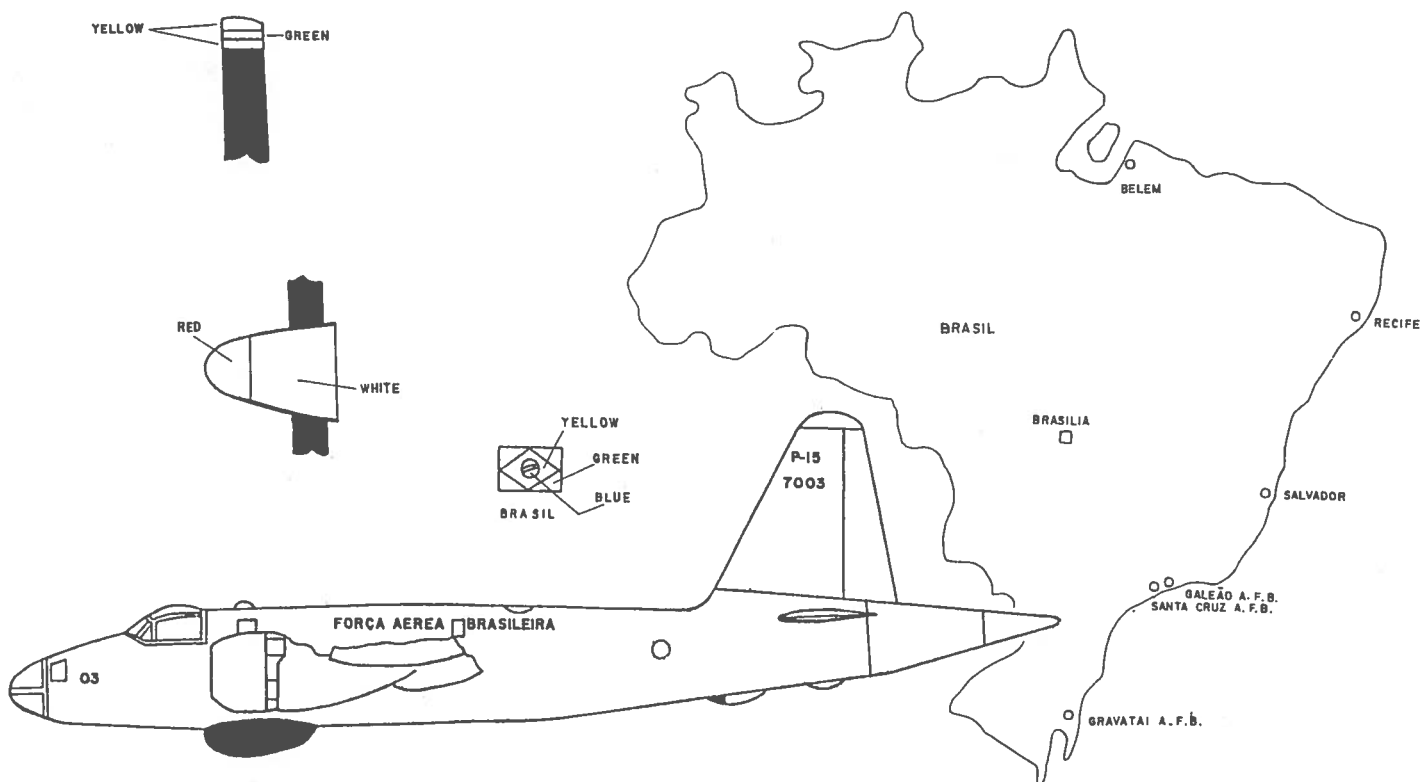
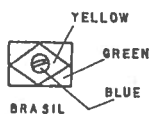
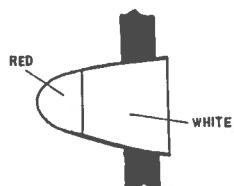
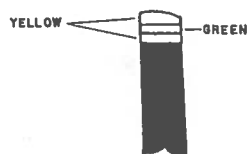
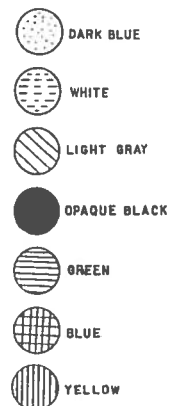
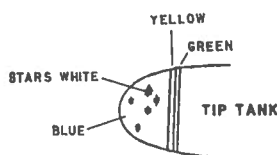
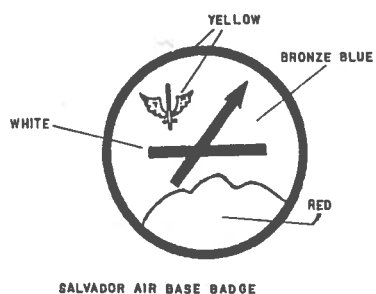
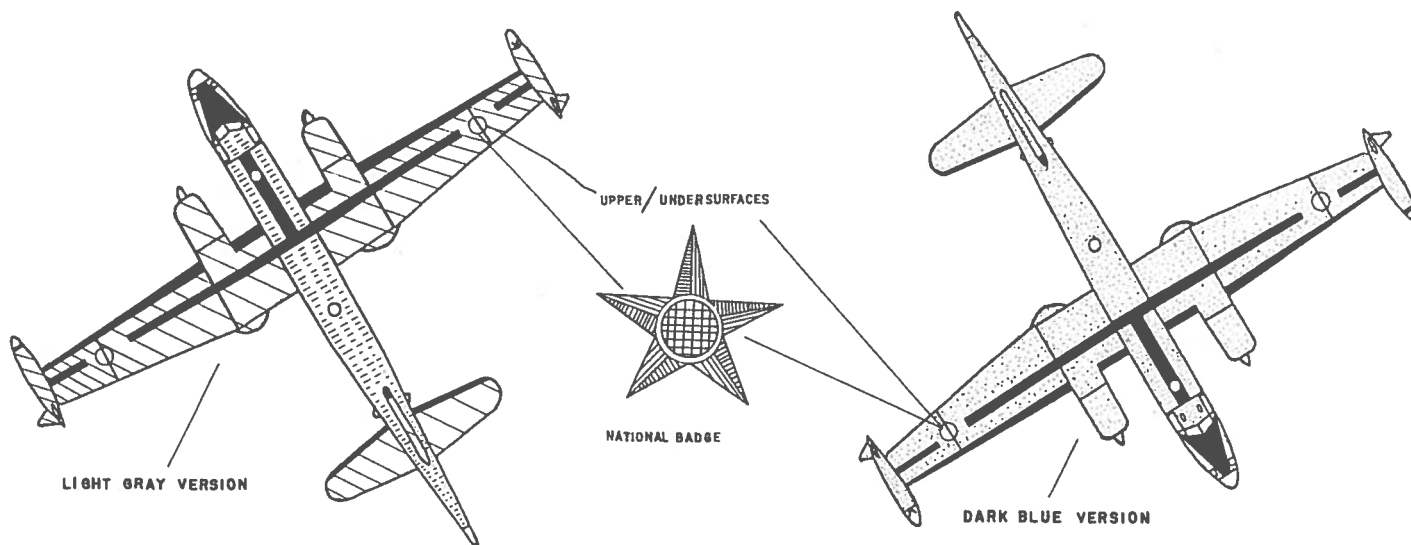
(Editor's note: This article first appeared in issues #16 and #17 of MANCHE. This translation by the author is reprinted here with the kind permission of the author.)

FAB serial	c/n	US NAVY serial	RAF serial	FAB receiving date	Arrival in Brazil	Last flight	Hours flown	Place	DISBANDMENT Reason
P-15									
7000	526-5161	51-15956	WX 505	58.12.15	58.12.30	73.03.22	2,430:20	San Paulo Marte	IRAN due date
7001	526-5131	51-15935	WX 509	58.12.15	58.12.30	62.07.31	147:05	Vicosa Alagoas	w/o
7002	526-5162	51-15957	WX 515	58.12.16	58.12.30	73.09.17	2,061:45	Salvador	IRAN due date
7003	526-5148	51-15943	WX 519	58.12.12	58.12.30	76.06.21	2,551:25	Sao Paulo Marte	IRAN due date
7004	526-5164	51-15959	WX 521	58.12.15	58.12.30	75.07.30	2,154:55	Sao Paulo Marte	IRAN dur date
7005	526-5147	51-15942	WX 523	59.01.25	59.03.28	76.06.08	2,438:35	Sao Paulo Marte	IRAN due date
7006	526-5108	51-15928	WX 529	59.01.26	59.04.11	67.04.16	319:10	Belem	w/o
7007	526-5105	51-15925	WX 525	59.01.22	59.03.26	59.08.21	154:55	Salvador	w/o
7008	526-5118	51-15931	WX 543	59.03.20	59.04.07	63.08.29	504:35	Salvador	w/o
7009	526-5153	51-15948	WX 544	59.03.20	59.04.07	76.09.03	2,790:00	Salvador	Kept at Salvador AFB
7010	526-5157	51-15952	WX 548	59.03.20	59.04.07	74.10.08	1,807:45	Afonso	Kept at Air Museum
7011	526-5154	51-15949	WX 553	59.04.24	59.05.12	73.03.27	2,033:05	Sao Paulo Marte	IRAN due date
7012	526-5165	51-15960	WX 555	59.04.25	59.05.12	72.03.30	1,402:55	Salvador	IRAN due date
7013	526-5164	51-15964	WX 556	59.04.25	59.05.12	74.10.29	1,964:30	Sao Paulo Marte	IRAN due date





CAMAZANO 83



CANAZANO 83

EZEIZA (ARGENTINA)

UNITAS OPERATIONS P-15 FAB

Embraer, Brazil's aerospace company, and Short Brothers, the Belfast-based aerospace manufacturer, jointly announced 18 May 1984 that they have entered into agreements to cooperate on a broad range of aerospace programs which could stretch well into the 21st century.

The first major program being developed under the co-operation agreements involves the marketing and manufacture-under-licence in Belfast, of a newly developed version of the Tucano turboprop military trainer aircraft which is being offered to the Royal Air Force as a replacement for the aging Jet-Provost aircraft currently in service. The Tucano licence provides for 100% of the new trainer to be manufactured in Belfast and guarantees that Shorts will manufacture similar versions of the Tucano for export to other countries worldwide.

The Royal Air Force requirement for a new basic turboprop trainer involves an initial purchase of 155 aircraft, valued, together with spares and logistics support services, at over £200 million. Shorts will be responsible for the total program within the UK including all of the design and development work associated with tailoring the new trainer to meet the Royal Air Force requirements.

After serious study of all contenders, Shorts selected the Tucano as the best aircraft in the field, and Embraer, after visiting all potential UK prime contractors, selected Shorts as their preferred partner to offer their aircraft for the Royal Air Force turboprop trainer requirement.

Following the issue by the Ministry of Defence of their detailed questionnaire in September 1983, Embraer and Shorts submitted a joint proposal for a developed version of the Tucano modified to meet the Air Staff targets, as a result of which the Ministry of Defence placed it in the short-list of contenders together with three other main competitors.

Embraer and Shorts have much in common, despite the disparity in their ages - Shorts is the oldest established aircraft company in the world and Embraer is one of the youngest. Both companies employ over 6000 employees, both specialise in the manufacture of medium sized aircraft, and both have a wealth of experience in the design, manufacture, and after-sales support of turboprop aircraft. Collaborative growth on this solid base will benefit the aerospace industries of both the UK and Brazil and offers many exciting and challenging opportunities for this powerful new consortium.

The second EMB-120 Brasilia prototype, PT-ZBB, which made its inaugural flight on 21 December and is the first of its type to feature the Garrett GTPC 36-150(A) auxiliary power unit, is now in the United States to carry out specialized tests required in the certification program. The 5943 nautical miles separating Sao Jose dos Campos and the final destination in California were covered with no technical problems in a flight of 28 hours 40 minutes block-time, with stopovers in Brasilia, Belem, Georgetown, Saint-Croix, South Caicos, Ft. Lauderdale, New Orleans, San Angelo, Phoenix, and Mojave.

Apart from special test equipment, the Brasilia No. 2 was partially fitted with interior furnishings and passenger seats for this trip. On reaching Ft. Lauderdale, were the company's US subsidiary, Embraer Aircraft Corp., is located, it flew 7 sorties totaling 9 hours 45 minutes block-time, carrying aviation journalists and prospective customers. The Brasilia also visited Naples, Florida, headquarters of PBA (Provincetown Boston Airlines), where a crowd of employees of the airline and city guests was waiting to inspect the company's future equipment - the PBA is committed to buy 10 Brasilia and will be the first regional carrier in the world to operate this new aircraft, being scheduled to take delivery of their first aircraft during the Paris Air Show in May of next year.

Brasilia PT-ZBB later flew on to California to do noise measurement tests in conjunction with Boeing Services Technology. This part of the program has been completed and clearly demonstrated that the Brasilia has a noise footprint well below the requirements of FAR Part 36. The remaining part of the program deals with natural ice accretion on the aircraft's structure and is presently being carried out in association with Aerospace Ordnance Systems. The Brasilia will remain in the US for two months.

The Brasilia is exactly what Embraer always promised - the fastest, lightest, and most economical aircraft in its category available today. This has been clearly demonstrated by flight-test results which indicate better than forecasted performance - maximum TAS at a ceiling of 6096 m (20,000 ft) in ISA conditions at a 9600 kg (21,164 lb) weight is 548 km/hr (296 kt) while the cruise TAS at ISA but at the MTOW of 10,800 kg (23,809 lb) is 545 km/hr (294 kt).

As a result of flight testing, some modifications were also introduced on the aircraft, namely: addition of vortex generators just ahead of the ailerons and on the leading-edges of the vertical and horizontal stabilizers; installation of trailing-edge wing fences between the outboard flap sections and the ailerons; and redesign of the rear end of the engine nacelles which resulted in a reduction of parasitic drag of about 8% at high coefficients of lift.

The third Brasilia flying prototype, actually the fourth EMB-120 airframe, left the assembly jigs in the second half of March. It is now being submitted to final system installations and will join the flight test program this month. Brasilia No. 3 will initially be utilized for production test flying and will later be completely outfitted for demonstrations at the RAA Convention in Washington next May.

Airframes Nos. 2 and 5 are being utilized for static and fatigue tests respectively, aimed at certification of the new airliner in October/November 1984.

The first of 120 EMB-312 Tucano turboprop trainers ordered by Egypt at the end of 1983 left the assembly jigs on 27 June 1984 and is scheduled to enter the final assembly line at the beginning of July. This aircraft is one of a batch of ten that will be supplied in fly-away condition directly from Brazil starting in the second half of 1984.













The remaining 110 examples from the initial order (60 more are on option) will be assembled in Cairo by the Arab Organization for Industrialization with increasing local participation. Value of the contractual package is US\$181 million, the biggest ever in Embraer history.


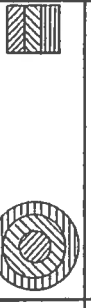










The Brazilian Air Force's 1st Squadron of the 7th Aviation Group, headquartered in Salvador, State of Bahia, recently completed their 20,000 accident-free flight hour on the EMB-111 Bandeirante maritime-patrol aircraft. This impressive record was achieved six years after the maritime-patrol version of the Bandeirante was put into operational service with the Squadron replacing the ageing Lockheed Neptunes.




















The EMB-111 Bandeirante, which is designated by the military in Brazil as the P-95, is fitted with search, rescue, and weather avoidance radar, searchlight, and other special equipment. A total fuel capacity of 2550 liters in internal plus wingtip tanks allows for missions of over 9 hours endurance.

























In addition to Brazil, Chile and Gabon also operate the Bandeirante.

AIR FORCE INSIGNIA OF AFRICA

ALGERIA		FORCE AERIEENNE ALGERIENNE
ANGOLA		ANGOLAN REPUBLIC AIR FORCE
BENIN (was Dahomey)		FORCE ARMEE POPULAIRE du BENIN
BOTSWANA (was Bechuanaland)		BOTSWANA DEFENCE FORCE
BURUNDI (part of Rwanda)		
CAMEROON		L'ARMEE de L'AIR du CAMEROON
CENTRAL AFRICA REPUBLIC		FORCE AERIEENNE CENTRAFRICAINE
CHAD		ESCADRILLE TCHADIENNE
CONGO REPUBLIC		CONGO AIR FORCE
DJIBOUTI (was Fr. Somaliland)		FORCE AERIEENNE DJIBOUTIENNE
EGYPT		ARAB REPUBLIC OF EGYPT AIR FORCE
ETHIOPIA		ETHIOPIAN AIR FORCE

EQUATORIAL GUINEA (Rio Muni & Island)		
GABON		FORCE AERIEENNE GABONAISE
GHANA		GHANA AIR FORCE
GUINEA-BISSAU (was Portugal Guinea)		
GUINEA REPUBLIC		FORCE AERIEENNE de GUINEA
HAUTE VOLTA		FORCE AERIEENNE de HAUTE VOLTA
IVORY COAST		FORCE AERIEENNE de COTE d'IVOIRE
KENYA		KENYA AIR FORCE
LIBERIA		LIBERIAN ARMY/ AIR RECONNAISSANCE UNIT
LIBYA		LIBYAN REPUBLIC AIR FORCE
MALAGASY REPUBLIC		ARMEE de L'AIR MADAGASCAR
MALAWI		MALAWI AIR WING

NALI REPUBLIC			FORCE AERIENNE du MALI
MAURITANIA			MAURITANIA ISLAMIC AIR FORCE
MOROCCO			FORCES ARMEES ROYALES
MOZAMBIQUE			MOZAMBIQUE AIR ARM
NAMIBIA (was S.W. Africa)			
NIGER			FORCE AERIENNE du NIGER
NIGERIA			FEDERAL NIGERIAN AIR FORCE
ORANGE FREE STATE (was Basutoland)			
RWANDA			RWANDA AIR FORCE
SENEGAL			ARMEE de L'AIR du SENEGAL
SIERRA LEONE			SIERRA LEONE DEFENCE FORCE
SOMALIA			SOMALIAN AERONAUTICAL CORP
SOUTH AFRICA			SOUTH AFRICAN AIR FORCE

SUDAN				SUDANESE AIR FORCE
TANZANIA				TANZANIAN PEOPLES DEFENCE FORCE AIR WING
TOGO				FORCE AERIEENNE TOGOLAISE
TUNISIA				TUNISIAN REPUBLICAN AIR FORCE
UGANDA				UGANDA ARMY AIR FORCE
WESTERN SAHARA (part of Morocco)				
ZAIRE (was Rep. of Congo)				FORCE AERIEENNE ZAIROISE
ZAMBIA				ZAMBIAN AIR FORCE
ZIMBABWE (was Rhodesia)				ZIMBABWE AIR FORCE

"I am enclosing some drawings which illustrate the national insignia of the African countries. I hope that these will be of use to SAFO readers.

"For a great many years, I have tried, without any luck, to locate someone who would be willing to produce decals of these markings at a reasonable price. Perhaps one of our readers can recommend some contacts that these will be able to use." —O. SARO, readers.

Bill Shenk (SAFCH #599), 21957 Crescent Court,
Farmington Hills, MI 48024

"I am most happy to supply you with the information you requested concerning the Indonesian Military Forces. Since I am unsure of the full amount of information you have, I will start from scratch, hoping that you will forgive me as I repeat items that you presently are aware of.

"There are four Branches of Service within the Tentara Nasional Indonesia (Indonesian Armed Forces): TNI-AU (Angkatan Udara = Air Force), TNI-AD (Angkatan Darat = Army), TNI-AL (Angkatan Laut = Navy), and TNI-POL (Police). All four of the Forces fly aircraft. Air Force aircraft colors are: transports - silver; fighters - camouflaged or light blue; cargo - sand. Army aircraft are all helicopters and they are camouflaged. Navy aircraft are grey with a tinge of light blue (for modeling purposes, a light grey is excellent). Police aircraft are all dark olive.

All forces use the pentagon as the national insignia with the Indonesian flag as a fin flash. (The pentagon stems from the 'Pancasila', Sanskrit for 'Five Principles', which is the basis for the Indonesian political system. The five principles are: Belief in one God, Just and civilized humanity, Nationalism, Democracy, and Social justice.) The border of the pentagon is flat red and the inner portion is flat white. (Red, the color of blood, stands for material things, whereas white stands for spirituality.)

The TNI-AD puts a five-pointed star of olive drab in the center with the points touching the corners of the pentagon; the TNI-AL uses a grey anchor such as the one shown below but without the wreath; and the Police insert the wreath but no anchor. The TNI-AU keep the field within the pentagon blank.

"The width of the border of the pentagon is 2/7ths of the distance from the center. The fin flash is a rectangle 5/6ths as high as it is wide. The red top is one-half of the rectangle. The pentagon is rarely found on the wings. The only time I have sighted it was on light aircraft.

"I hope I have been able to assist you and have not repeated too many items that you already know. I have added background to the symbology because it interests me and because I think it is important to know why something is done.

"I appreciate your offer to maintain my anonymity. There is no regulation requiring it, although I would prefer it. The data I have given is available to anyone living in Indonesia."

(Editor's note: The above letter was passed on the SAFO by Creighton Kern SAFCH #541.)

"Fritz Braun (SAFCH #220) and I have been exchanging such data since 1976. While we are currently engaged in the time-consuming and difficult task of making additions and correction to the prints of national military aircraft markings to be used in MILITAIR 1983, I will gladly continue to send to you data for use in the SAFO. My present contribution consists mainly of some problems that have been occupying my thoughts for the last couple of weeks.

"Both Fritz and I are ignorant of the new Senegambia Air Force roundel as well as that for the Gambian Air Force which, according to FLIGHT INTERNATIONAL (6 November 1982), was merged with l'Armee de l'Air du Senegal to form Senegambia.

"There is no military whatsoever in Kiribati (SAFO #25 was wrong to imply that the new CASA C.212 'T3-ATC' is military.) Kiribati's Air Tungaru says they fly the C.211 strictly as an airliner.

"I usually find Fritz to be over 90% correct, but I do have strong reservations on the accuracy of his recent statements about the national markings for Benin, Mongolia, and Guinea-Bissau.

"I disagree with Fritz's contention that there has been a change in the Benin AF roundel. His new roundel is based (1) on a photograph of a Benin AF C-47 which was taken in a poorly lighted hangar and is so dark that the roundel is almost imperceptible, and (2) on a USDIA chi-

mera inspired by the small red star at the top near the hoist on a large green field of the Benin flag. In addition, and the USDAO that covers Benin is in the US Embassy at Abidjan and they have professed a lack of eyewitness evidence in this matter.

"On the basis of intelligence reports gleaned from a Mongolian journal's photographs of Mongolian MiG-21s and also different photos in the Cuban 'Olivo Verde' of Mongolian MiG-21s, I have concluded that the red Soyombo symbol (yellow on the hoist red strip of the Mongolian flag) is carried on the tail of Mongolian aircraft and nowhere else. The gold-rimmed 5-pointed red star with the golded Soyombo inside it seen on Polish TV is exactly the same as the star atop the Mongolian coat of arms; perhaps this insignia is carried on VIP aircraft or Air Mongol airliners.

"As far as I know, all the roundels attributed to the Guinea-Bissau AF are derivatives of Fritz's original drawing. This insignia was described to Fritz by a Portuguese refugee. This original drawing is suspect both because the source has to have fled Guinea-Bissau at a unlikely late date if he was to glimpse the national markings on the first batch of MiGs delivered to Guinea-Bissau, and it seems unlikely that an unauthorized person could have gotten close to a secluded, patrolled, off-limits, air base, as is the case in Benin according to news reports. Even the USDIA chart does not hazard to conjure up a roundel for Forca Aerea de Guine-Bissau, just a flag fin flash.

"Fritz's new Afghan AF roundel is accurate beyond doubt.

"A letter from the Chief Archivist of Mauritius recently arrived containing photocopies of the Mauritian Police roundel as carried on Cheetah helicopters. The Mauritian Police constitute for all practical purposes a real defence force with land, air, and sea units, but they rather use a gross euphemism."

Greighton Kern (SAFCH #541), 25 South Monroe St., Ridgewood, NJ 07450



(Continued from page 107)

er. Thanks to Ben Marselis for this latter information.

"Dakota DO-4, -7, and -12 were wfu. DO-4 went to museum in Finland in May 1982, DO-7 became PH-DDA, and DO-12 was sold in Sweden. The remaining Dakotas will be wfu soon.

"The two Piper Chieftans ordered in June 1983 were delivered in February 1984 and received serials PC-5 and PC-6. Delivery registrations for PC-1 to PC-6 were OH-PAJ, PAL, PAO, PAP, PAU, and PAV respectively. Cessna 402B Businessliners CB-51 and CB-52 went to KAR-AIR as part payment for PC-5 and 6, and they have since been sold. It is possible that they were given their old civil registrations OH-CGS and CHS respectively."

Martti Kuivalainen (SAFCH #282), Fysikgrand 1D-213, S-902 40 Umea, SWEDEN

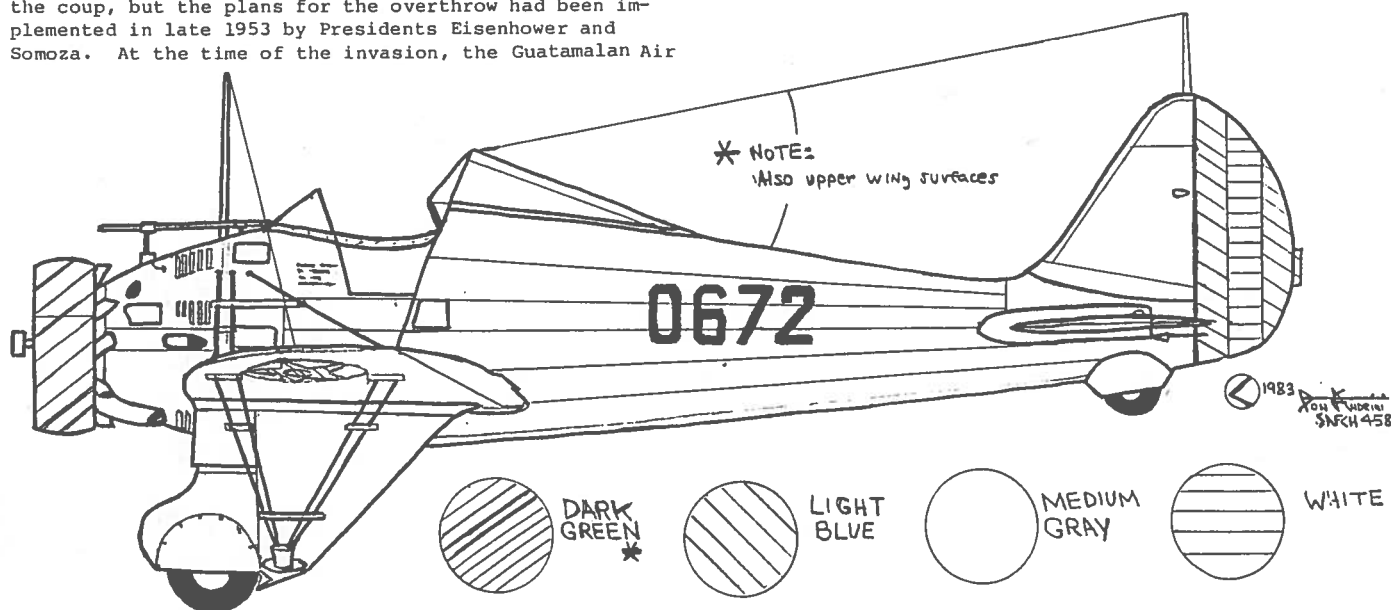
CONFLICTS, COUPS, CRISES & CLASHES

A SURVEY OF THIRD-WORLD AIR COMBAT FROM 1946 TO THE PRESENT

No.31. Boeing P-26A of the Escuadron de Escuela, Fuerza Aerea de Guatemala. Based at Los Cipresales Field, Ciudad de Guatemala, June 1954.

In 1952, Guatemala was a typical Central American feudal state with two percent of the population owning seventy percent of the land. Newly elected President Jacobo Arbenz Guzman attempted to initiate certain land reforms, but when the situation continued to fester, Guzman turned increasingly to the leftists to maintain his grip on power. This only precipitated more chaos and inevitably resulted in revolution. Anti-Communist forces led by Lt. Col. Carlos Castillo Armas, with strong backing from the CIA and the United Fruit Company, invaded Guatemala from Honduras with CIA air support operating out of Nicaragua. A shipment of Czech arms to Guatemala in May 1954 was the main excuse for the coup, but the plans for the overthrow had been implemented in late 1953 by Presidents Eisenhower and Somoza. At the time of the invasion, the Guatemalan Air

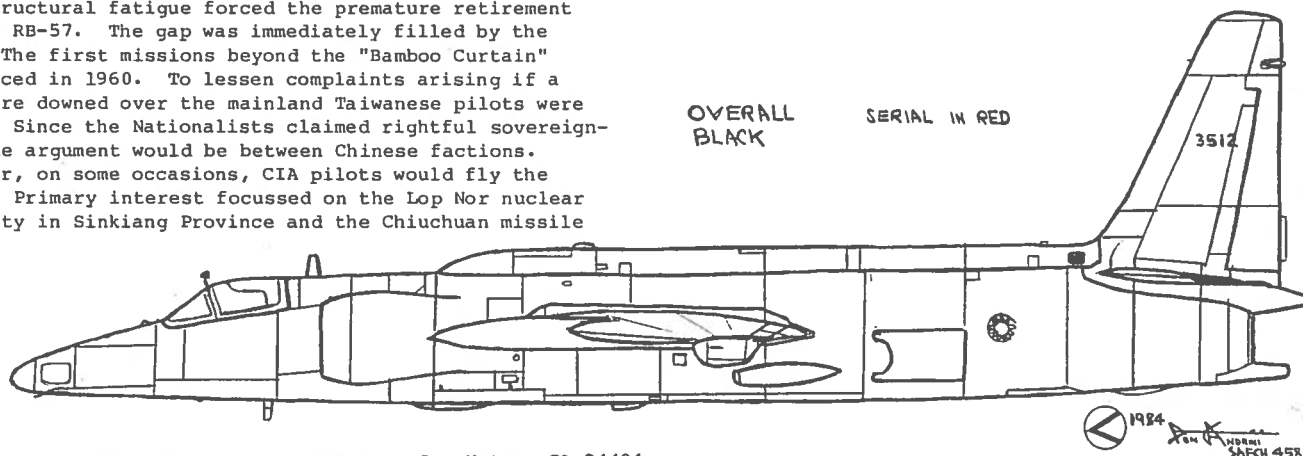
Force consisted of a handful of vintage aircraft including some P-26s. The Peashooter had been relegated to the training role in 1950, although on occasion they doubled on internal survey and "policing" duties. The rebels enjoyed total air superiority; in fact, the rebel P-47s became known to the Guatemalan people as "sulfatos" (laxative), because of the demoralizing effect they had on Guzman's officials. So unreliable was the FAG that Guzman ordered all his aircraft grounded. The coup was over by 19 June with Armas declared President on 1 July. How ironic that Nicaragua was utilized as a training and staging base for rebels to overthrow a leftist regime in Guatemala. The reverse is true today; with Guatemala serving as a base for insurgents attempting to overthrow a leftist regime in Nicaragua.



No. 32. Lockheed U-2C of the Chinese Nationalist Air Force, based at Tao Yuan Air Base, Taiwan, circa 1962.

By the mid 1950s it had become increasingly obvious that the People's Republic of China (Red China, to use the vernacular of those times) was developing nuclear weapons. At the time, the U-2 and the RB-57C were the only available aircraft with the range and ceiling to undertake intelligence-gathering flights over the vast tracts of China with a reasonable margin of safety. In 1959, the first CNAF RB-57 recon missions were flown, but structural fatigue forced the premature retirement of the RB-57. The gap was immediately filled by the U-2. The first missions beyond the "Bamboo Curtain" commenced in 1960. To lessen complaints arising if a U-2 were downed over the mainland Taiwanese pilots were used. Since the Nationalists claimed rightful sovereignty, the argument would be between Chinese factions. However, on some occasions, CIA pilots would fly the U-2s. Primary interest focussed on the Lop Nor nuclear facility in Sinkiang Province and the Chiuchuan missile

range in Kansu Province. The first U-2 loss occurred over Nanching in 1962. There would be others. Some of these downed U-2s are on display in a museum in Beijing (Peiking). By 1964, it had become so critical to know how close China was to detonating its first A-weapon that Agency-crewed A-12s (pre SR-71) flying out of "The Ranch" at Groom Lake, Nevada, augmented the lower-flying U-2 in monitoring Chinese nuclear activities. U-2 flights continued over China until October 1974 when the Nixon Accord halted further overflights.



Ron Andrini (SAFCH #458), 238 State St., San Mateo, CA 94401

ALGERIAN AIR FORCE UPDATE

The Algerian Air Force has grown markedly in recent years. As of May 1982 it had 7000 personnel compared to 4500 in 1976. Almost all of the equipment presently in use is of Soviet origin.

1. One reconnaissance squadron consisting of 10 MiG-25 Foxbat R. Since 1978 these aircraft have been based either at Dichela or, more probably, at Dan el Beida. Their mission is principally reconnaissance over Western fleets. It is almost certain that most, if not all, of the pilots are Soviet personnel.

2. Four fighter-interceptor squadrons consisting of about 70 MiG-21 Fishbed of which 10 are MiG-21F Fishbed C delivered in 1965-66 and the remaining 60 are MiG-21MF Fishbed J deliveries of which commenced in 1974.

3. Nine fighter-bomber squadrons made up of two squadrons of about 40 MiG-23BM Flogger F (export version of the MiG-27 Flogger D) based at Dichela, three squadrons of 60 MiG-17F Fresco, and two squadrons of 20 Sukhoi Su-7BM Fitter A and 20 Su-20 Fitter C.

4. Two counter-insurgency squadrons with 26 Fouga CFM-170 Magisters of which 5 are reserved for display flying with the Escadrille de Prestige.

5. Two bomber squadrons consisting of 24 Il-28 Beagles which were delivered in the 1960s. These aircraft are presently in reserve and will soon be replaced by the MiG-17s as they, in turn, are replaced by Su-20/22 Fitter F/H.

6. One heavy-transport squadron consisting of 8 Antonov An-12 Cubs.

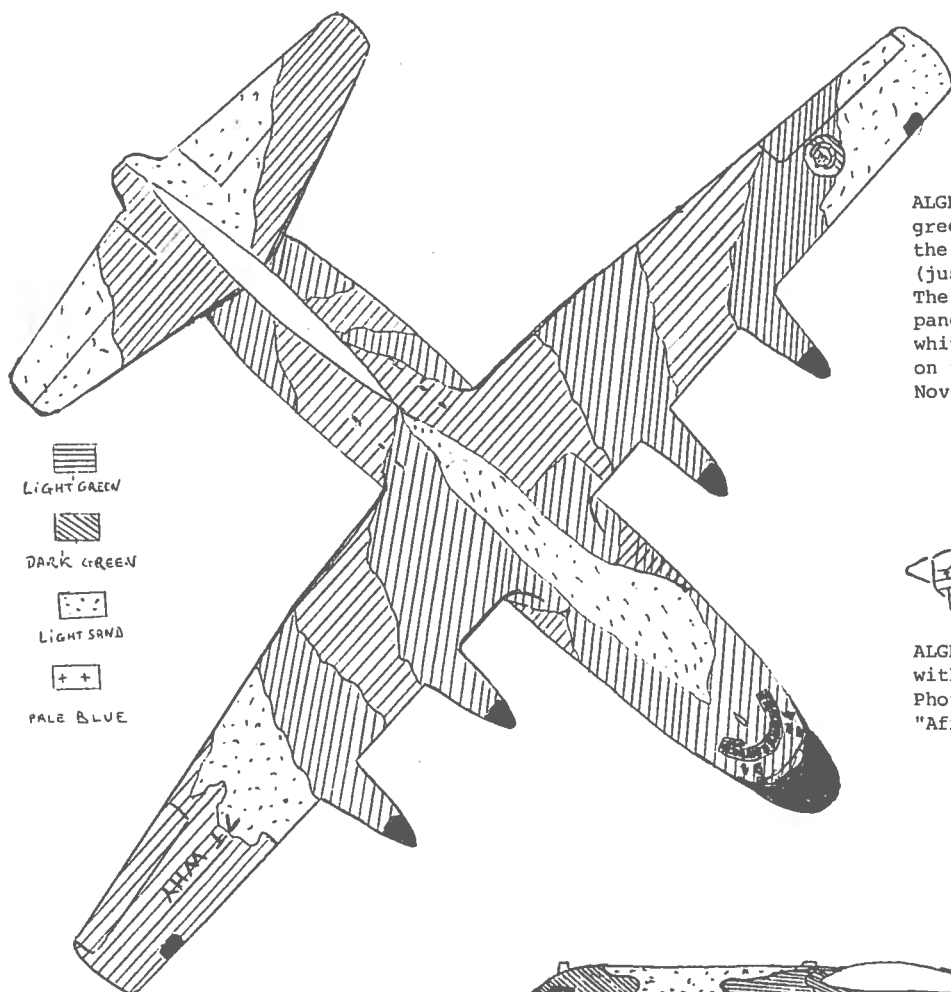
7. One tactical-transport squadron consisting of 10 Fokker F-27 Mk 400, one F-27 Mk 600, 6 Il-14 Crates (which will soon be withdrawn from service), and 6 C-130H (4 C-103H and 2 C-103H-30) ordered in September 1981. (The F-27 Mk400 that shown in SAFO #29 was photographed at le Bourget where it had been repainted in the camouflage colors shown. It had arrived in the more usual color scheme of grey and white which, it should be noted, is very different from the scheme used by Air Algerie and may be the standard color scheme for Algerian military transport aircraft. The drawing of the camouflaged Algerian Hercules '7T-WHY' below is based on a photo that appeared in the November 1982 issue of AFRIQUE DEFENSE. As far as is known, all other Algerian Hercules are still in the standard grey and white scheme. For example, a grey and white Hercules C-130H-30 '7T-VHM' was photographed at le Bourget in January 1984).

8. A training unit using 19 Yak-11 Moose and Yak-18, and 6 T-34C which were delivered in 1979.

9. An advanced training unit consisting of 20 MiG-15 Bis single-seater and MiG-15UTI twin-seaters, and a number of MiG-17F Fresco C, MiG-21 Mogol A, and Su-7UMK Moujik.

The information in this article was extracted from the May 1982 issue of AFRIQUE DEFENSE.

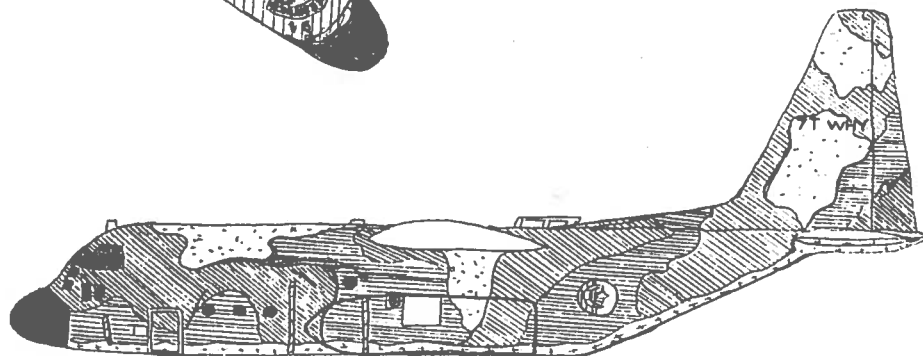
Jean-Paul Garcia (SAFCH #573), 82 rue de l'Egalite, Apt. 47, 93260 Les Lilas, FRANCE



ALGERIAN AIR FORCE C-130H: Light and dark green have no clear separation except on the rudder where the shades are darker (just as if the rudder had been changed). The front door is edged in yellow and the panel on the landing-gear housing is dirty white with a red circle on a white square on the left side. Photo: "Afrique Defense" November 1982.



ALGERIAN AIR FORCE T-34C: Bright white with 'dayglo' red. Algerian flag on fin. Photo also shows -WPK and -WPN. Photo: "Afrique Defense" May 1982.



ISRAELI AIRCRAFT INDUSTRIES KFIR C.2

(SPIN TRIALS)

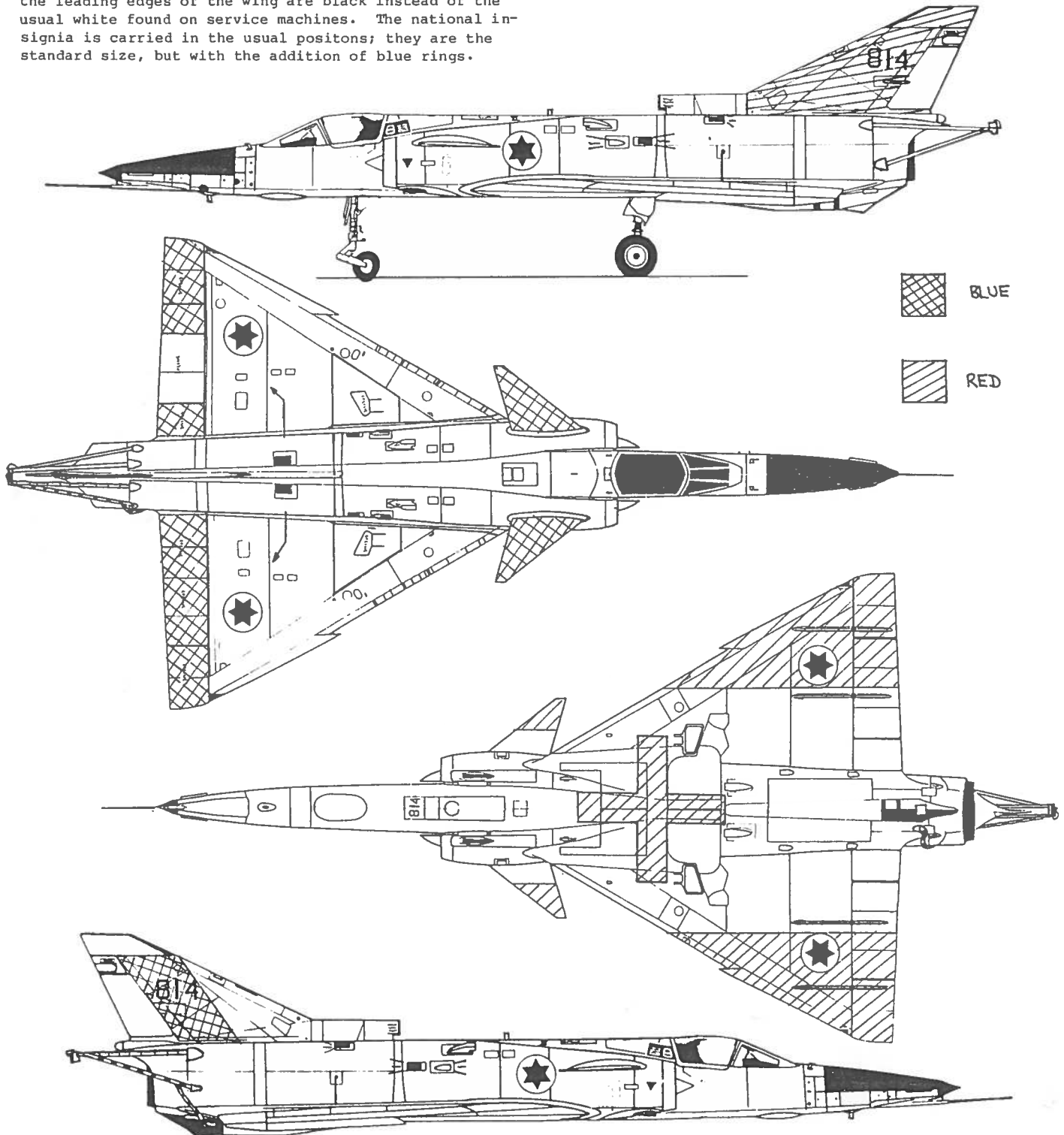
IAI Kfir C.2 (Serial 814) has been converted by IAI for spin trials with the addition of a parachute on a tubular frame mounted above the exhaust. This aircraft sports a striking colour scheme.

Overall color is white with red and blue parts as shown on the accompanying 1/72-scale drawings. The upper part of the nose and the rear section of ventral fuel tank are black. The serial on the fin is white while the serial on the nose-wheel door is the usual black. All warning markings are red except the Hebrew "no step" markings which are white on blue areas of the flaps and black on white areas. The graduated dashes on the leading edges of the wing are black instead of the usual white found on service machines. The national insignia is carried in the usual positions; they are the standard size, but with the addition of blue rings.

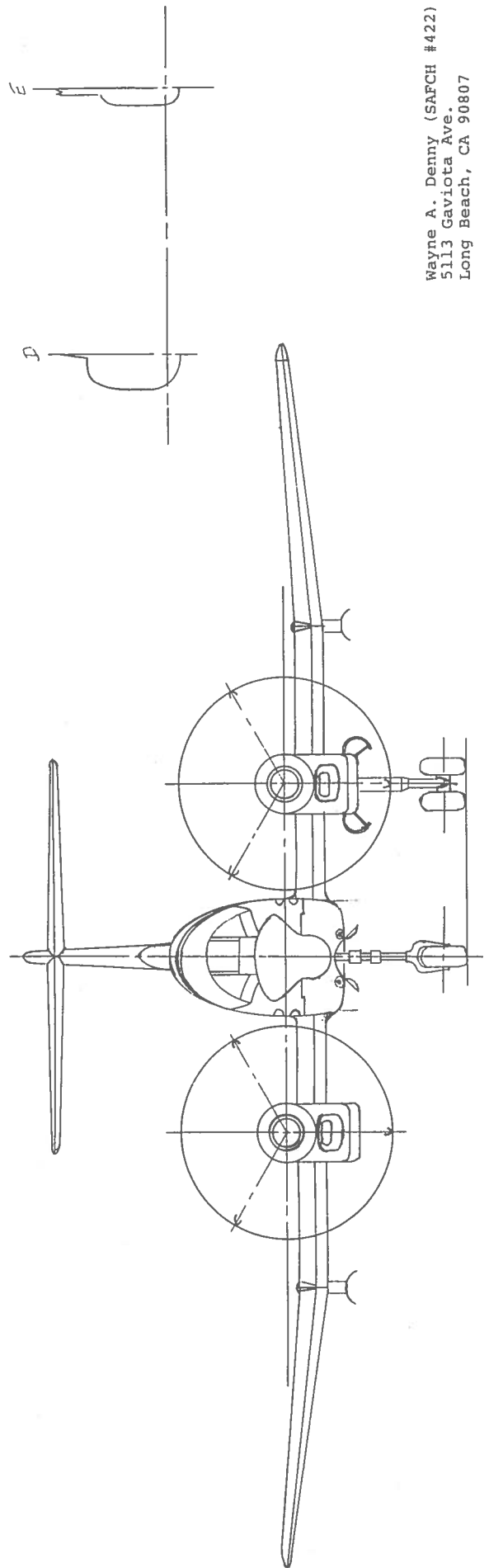
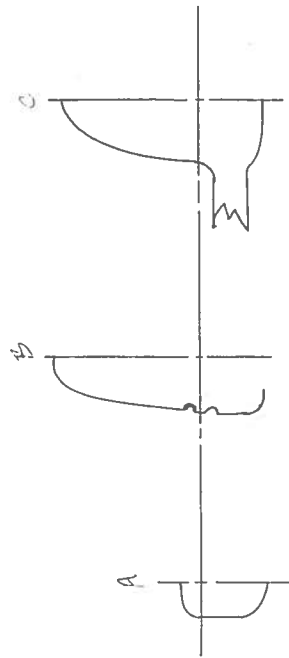
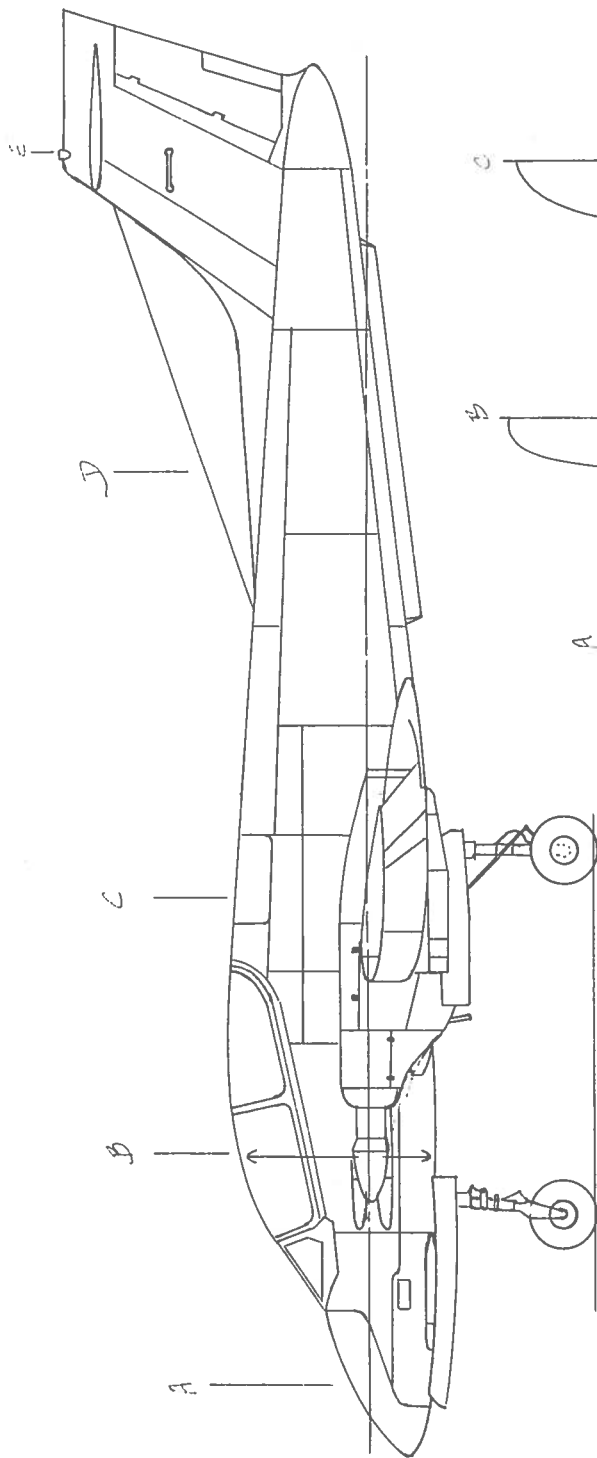
The upper starboard strut that carries the spin parachute also carries a black cable taped to it at six points along its length. The lower starboard strut carries a large brown cable taped at ten points along its length with white tape. This cable is then carried under the trailing edge of the starboard wing and into the fuselage.

Two photos of this aircraft were published in BIAF No. 46, page 37.

M. A. Burton (SAFCH #303), 33 Jenkins Grove, Copner. Portsmouth, Hampshire, PO3 6HE, ENGLAND



AIRCRAFT OF THE SMALL AIR FORCES



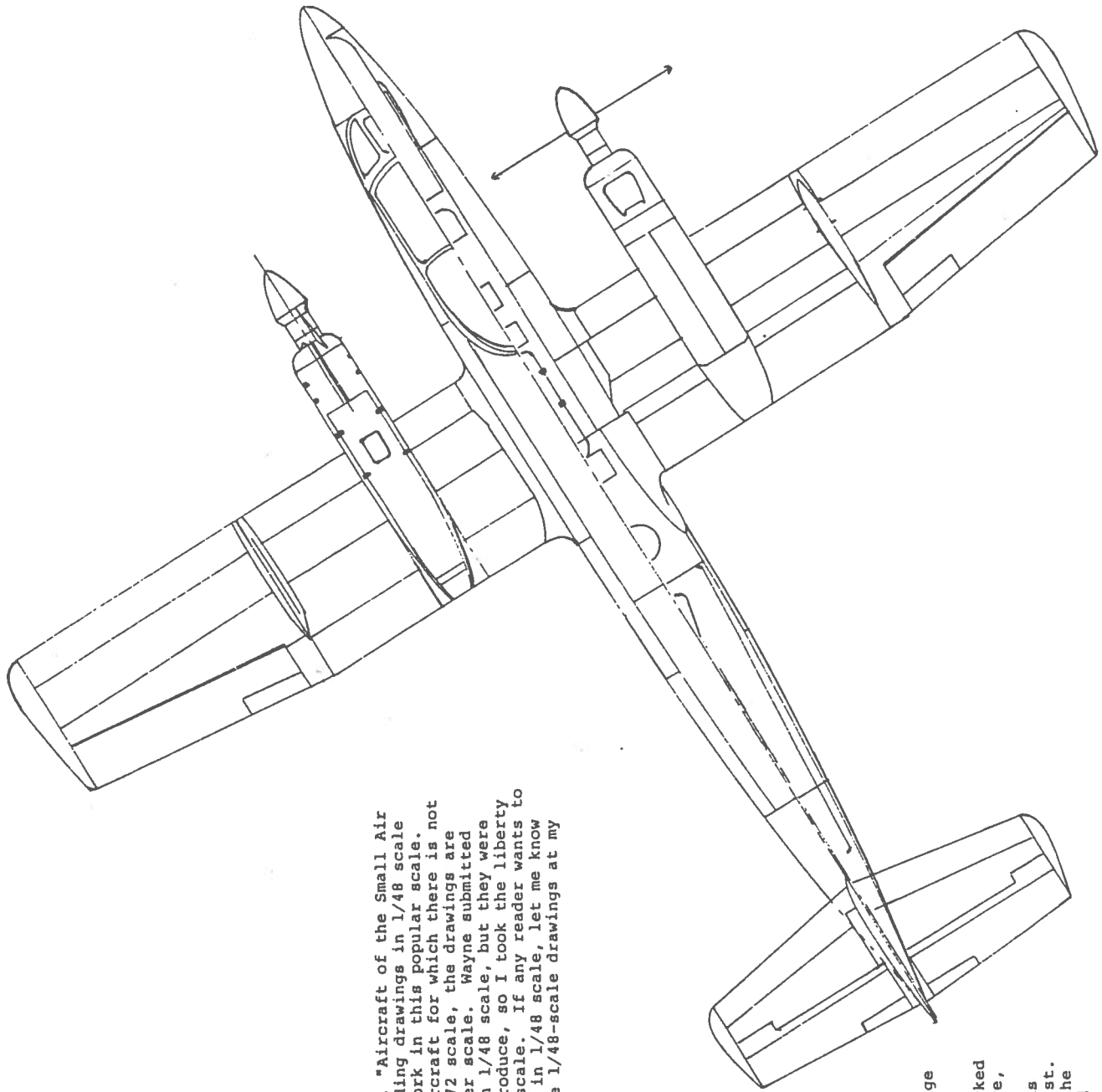
Wayne A. Denny (SAFCH #422)
5113 Gaviota Ave.
Long Beach, CA 90807

Argentine

FMA IA-58

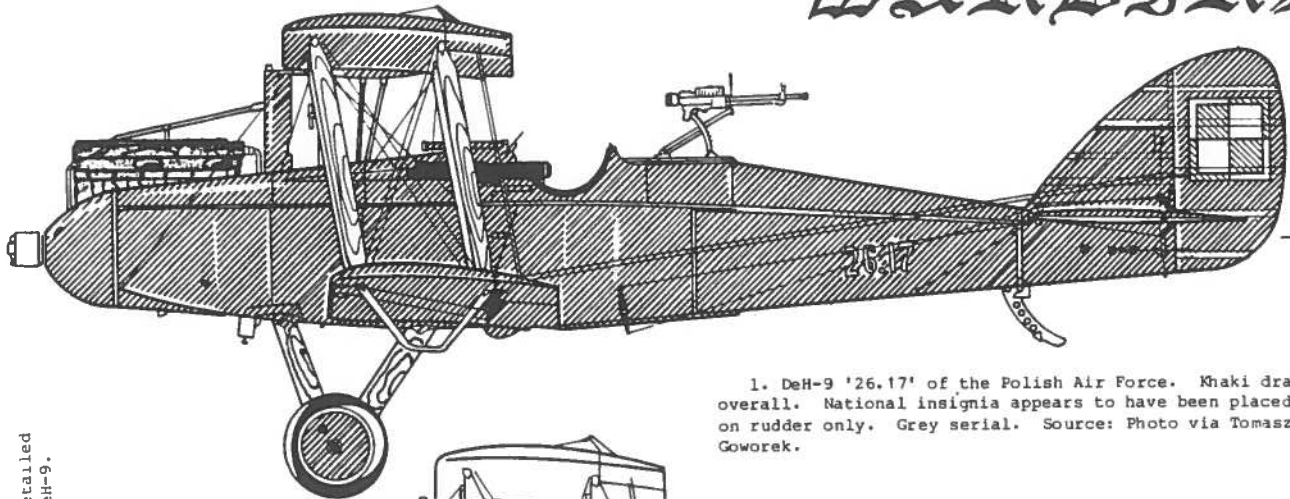
Pucara

(Editor's note: In his series, "Aircraft of the Small Air Forces", Wayne has been providing drawings in 1/48 scale for the modeler who like to work in this popular scale. If the drawings are for an aircraft for which there is not an injection molded kit in 1/72 scale, the drawings are also reproduced in this smaller scale. Wayne submitted the drawings for the Pucara in 1/48 scale, but they were too large to conveniently reproduce, so I took the liberty of running them only in 1/72 scale. If any reader wants to try scratch building a Pucara in 1/48 scale, let me know and I'll provide copies of the 1/48-scale drawings at my cost.)

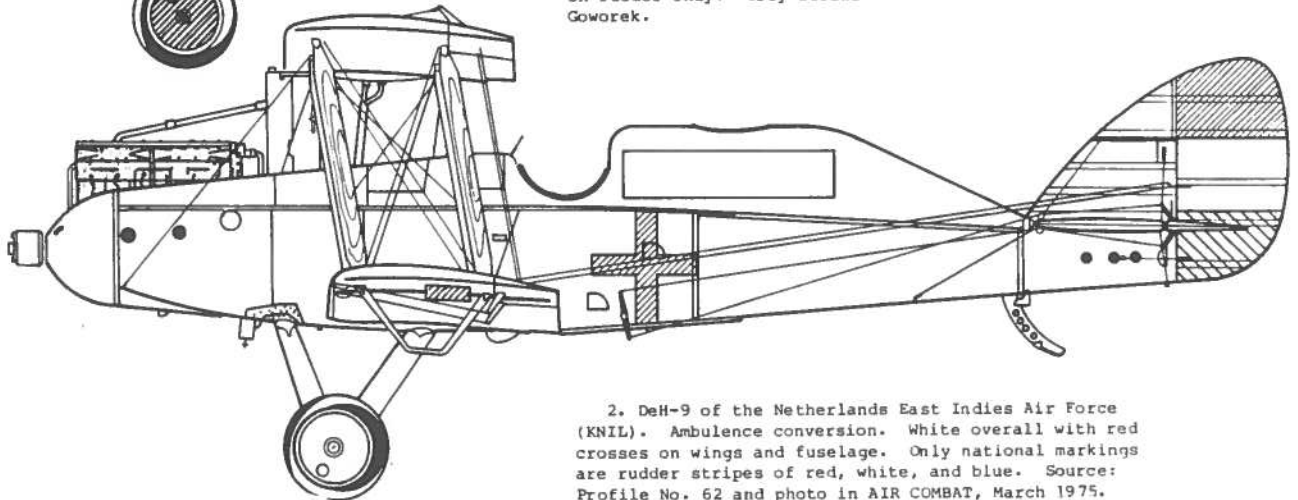


(Editor's note: Several readers have asked, "Why publish drawings of unmarked aircraft?" While the main objective of Wayne's series is to provide plans for the scratch builder, they can serve a much wider purpose. If you have information on the markings and camouflage of some interesting aircraft, but are devoid of artistic talent, you can still share this knowledge by making Xerox copies of the unmarked drawings, add your own markings and camouflage, and submit it for publication in the SAFO. Who knows, with the help of a couple of sheets of Zip-a-Tone, you could become quite an artist. Let's make the Pucara a test case! Dig out the most unusual scheme you have for a Pucara and mark up a Xerox copy of these pages. I'll publish all the drawings received, except for duplicates, along with a statistical summary of the results.)

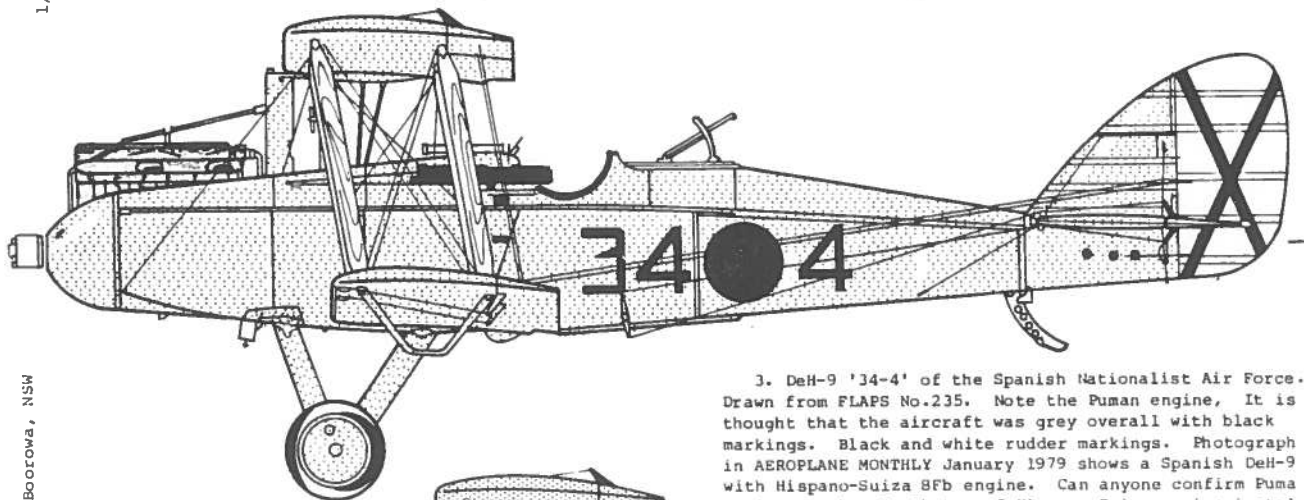
WARBIRDS



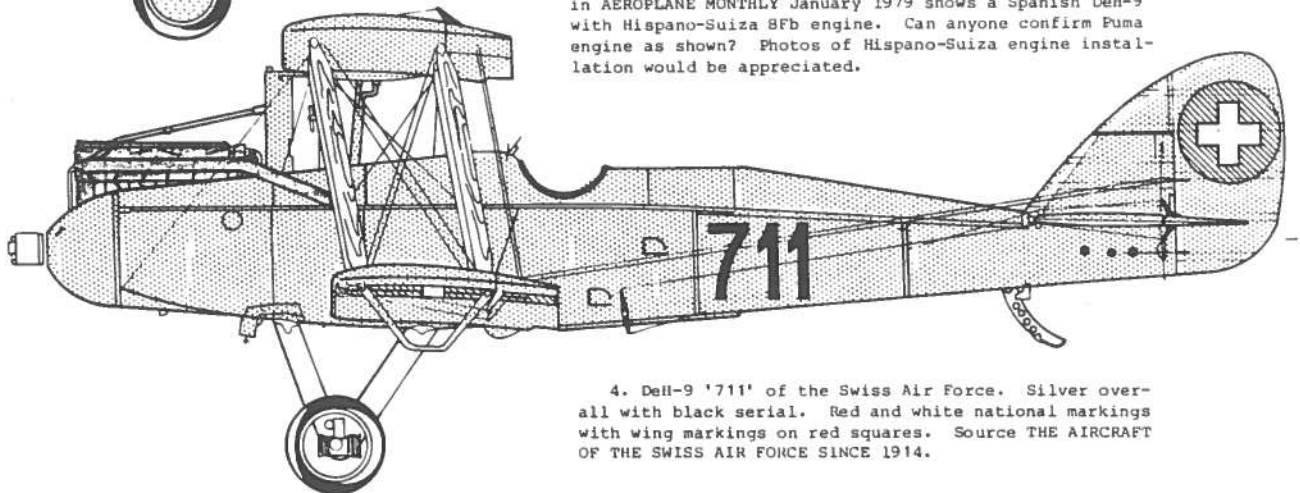
1. DeH-9 '26.17' of the Polish Air Force. Khaki drab overall. National insignia appears to have been placed on rudder only. Grey serial. Source: Photo via Tomasz Goworek.



2. DeH-9 of the Netherlands East Indies Air Force (KNIL). Ambulance conversion. White overall with red crosses on wings and fuselage. Only national markings are rudder stripes of red, white, and blue. Source: Profile No. 62 and photo in AIR COMBAT, March 1975.



3. DeH-9 '34-4' of the Spanish Nationalist Air Force. Drawn from FLAPS No.235. Note the Puma engine. It is thought that the aircraft was grey overall with black markings. Black and white rudder markings. Photograph in AEROPLANE MONTHLY January 1979 shows a Spanish DeH-9 with Hispano-Suiza 8Fb engine. Can anyone confirm Puma engine as shown? Photos of Hispano-Suiza engine installation would be appreciated.



4. DeH-9 '711' of the Swiss Air Force. Silver overall with black serial. Red and white national markings with wing markings on red squares. Source THE AIRCRAFT OF THE SWISS AIR FORCE SINCE 1914.

See AVIATION NEWS, Vol. 12, No. 14 for detailed 1/72-scale drawings and an article on the DeH-9.

Collin Owers (SAFCU #261), PO Box 73, Boorowa, NSW 2586, AUSTRALIA